MARIJUANA:
FACTS AND FICTION

Thomas Stafford Slater

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THESIS

MARIJUANA: FACTS AND FICTION

by

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June 1973

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Marijuana: Facts and Fiction

by

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ABSTRACT

This thesis was written to outline the facts and myths concerning marijuana use as described in contemporary research and literature. It also gives a limited insight into the marijuana attitudes, beliefs, experience, and knowledge of the naval officer attending the Naval Postgraduate School (NPS). The results of a questionnaire developed by the National Commission on Marihuana and Drug Abuse and administered to the NPS students were discussed and compared to the results of the National Commission's National Survey.

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I. INTRODUCTION

The use of drugs is not in itself an irresponsible act. Medical and scientific uses serve important individual and social needs and are often essential to physical and mental well-being. Further, the use of drugs for pleasure or other non-medical purposes is not inherently irresponsible; alcohol is widely used as an acceptable part of social activities. It is generally felt that the use of drugs, including alcohol, is irresponsible when it impedes the individual's integration into the economic and social system.

Drugs should be servants, not masters. They become masters when they dominate an individual's existence or impair his faculties. It is when any drug, including alcohol, carries with it risks to the well-being of the user and seriously undermines his effectiveness in the society, that drug use becomes a matter for public concern.

Regular and experimental marijuana use is increasingly prevalent among the young people from whom the Armed Forces draws its manpower. The National Survey estimates that 30% of the 16-17 year olds, 40% of the 18-21 year olds and 18% of the 22-25 year olds still use marijuana. Therefore, it is conceivable that a similar proportion of marijuana experimenters will be inducted in the military service. If so, then it is important that the leadership in the Armed Forces handle this trend in a knowledgeable and rational manner.

The goal of the thesis is to separate fact from fiction and to set forth information regarding the effects of marijuana use on the individual and society. To achieve this goal, the following outline was developed as a guide.

A. PURPOSE OF THE THESIS

1. To outline for the military officer the facts concerning marijuana use as described in empirical research and contemporary literature.

2. To discuss the attitudes, beliefs, experience and knowledge of a group of naval officers concerning marijuana use.

B. METHOD

1. Conduct a broad brush survey of the history and current research on marijuana.

2. Survey the officers at the Naval Postgraduate School (NPS) and report the results of a questionnaire developed by the National Commission on Marihuana and Drug Abuse.

a. Contrast the results of two age groups of officers, 22-29 years of age and 30 years and older.

b. In only a general sense, contrast the results of the adult (18 years and older) portion of the National Commission's National Survey and the NPS participants.

II. CLASSIFICATION AND EARLY USE OF MARIJUANA

A. CLASSIFICATION

Marijuana (marihuana) is one of the many terms used for the various intoxication preparations produced from the Indian hemp plant, Cannabis sativa. Cannabis, bhang, kif, hashish, pot, charge, tea, ganja and grass are some of the other names associated with the drug. The Bureau of Narcotics keeps a list of more than three hundred different terms.

The cannabis plant grows wild in most parts of the world and is cultivated for the drug in Africa and Asian countries. Moslems readily accept it as a substitute for alcohol, which is outlawed by their religion.

Only the female plant produces the psycho-active chemical which is contained in the resin that is secreted around the flowers and the small, top leaves of the plant. The resin keeps the reproductive parts of the female plant moist and prevents evaporation from this area. In an extremely moist climate, the production of this resin is unnecessary and therefore the plant will have little value if collected for intoxicating purposes. Dry climates, such as North Africa and parts of India, produce an extremely generous protective resin used in preparation of hashish. Hashish is some five to eight times more potent than marijuana (Keiffer, 1970). The relation between marijuana and hashish might be comparable to that between beer and pure alcohol. Marijuana and

hashish have the same chemical composition and psychological effects; it just takes less hashish for the same effect. It is important to make this distinction because the stronger preparations have a much greater capacity for abuse than do the weaker forms of the drug.

Most American marijuana is grown in Mexico, Jamaica, Panama and Canada. Within the United States, it grows well in the Southwest, Iowa, Kentucky and Pennsylvania. It also grows wild as a "roadside weed" in most parts of the country--even in vacant lots in large cities. The New York City Sanitation Department has destroyed over fifty tons of the plant growing within the city (Geller, 1969).

In the cannabis resins is found the problem in the form of psychotoxins. This group of psychotoxins is officially known as the cannabinals. The chemical substance which produces the major drug effects is tetrahydrocannabinal (THC) (Gorodetzky, 1970). According to current information, the amount of the THC present determines the potency of the preparation (Gorodetzky, 1970). Mexican marijuana has a THC content of less than one per cent; hashish has five to 12% THC (National Commission on Marihuana and Drug Abuse, 1972).

The legal classification of marijuana is not so simple. According to the medical information presently available, it is still on rather shaky ground. Marijuana has been ranked as a narcotic along with the hard drugs: heroin, cocaine and morphine, although scientific evidence fails to

completely support this classification (Geller, 1969). The marijuana user does not develop a physical dependency nor does he build a tolerance requiring an increasing dosage (National Commission, 1972).

Drug addiction is a state of periodic or chronic intoxication detrimental to the individual or to society, produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include: (1) an overpowering desire or need (compulsion) to continue taking the drug and to obtain it by any means, (2) a tendency to increase the dosage, and (3) a psychic (psychological) and sometimes physical dependence on the effects of the drug (National Commission, 1972).

B. HISTORY

Marijuana is one of the oldest and most widely used mind-altering drugs. The Chinese described it in their literature almost 5,000 years ago. It has been used throughout history for commercial, religious, intoxicant and medical purposes, especially in Asia and North Africa.

Cannabis, for production of hemp, has been growing in the United States since 1611. During the Colonial and post-Revolutionary periods, hemp was probably the most important southern agricultural product after cotton.

Marijuana use in the United States dates back to the 1910's and 1920's when large numbers of Mexican laborers joined the farm labor market in the Southwest.

The word, marijuana (marihuana is the Mexican spelling) is believed derived from either the Mexican words for Mary Jane or the Portuguese word marijuana, meaning intoxicant (Lingeman, 1969).

While the Mexicans were the main influence in the adoption and use of marijuana, other groups helped introduce the drug into the United States. The merchant marine sailors from ships working West Indies and Central American ports introduced marijuana to the Southern and Midwestern parts of the country through the port of New Orleans. New Orleans was the first American city to experience a marijuana cult and, also, a crime wave involving school children high on "muggles" (Lingeman, 1969). Prior to that time there had been no connection between marijuana and crime.

The popular press of the day began to publish front-page stories of an alarmist bent about the effects of the drug on those who smoked it. The press shaped popular opinions such that marijuana was connected with every violent crime and the corruption of school children.

Legislators responsive to anti-marijuana propaganda had outlawed the drugs at the federal (Federal Marijuana Tax Act) and state levels by 1937. Some states wrote legislation into their books out of all proportions to the actual problem. Oregon imposed ten-year sentences for possessing or trafficking, and in Georgia, sale to a minor can mean the death penalty. The main thurst behind the drive for

anti-marijuana legislation was Harry J. Anslinger, the first chief of the Federal Narcotics Bureau, who claimed marijuana is criminogenic.

In 1938, in an unusual move against public opinion, New York City's Mayor La Guardia appointed the New York Academy for Medicine to make a scientific and sociological study of the use of the drug in that city. After five years, the group produced a most exhaustive report examining the sociological, psychological and pharmacological aspects of the drug.

The psychological and sociological study was carried out by specially trained undercover members of the police department, who visited places haunted by marijuana smokers. They concluded the following:

> "Marihuana, by virtue of its property of lowering inhibitions, accentuates all traits of personality, both those harmful and those beneficial. It does not impel its user to take spontaneous action but may make his response to stimuli more emphatic than it normally would be. Increasingly larger doses of marihuana are not necessary in order that the long-term user may capture the original degree of pleasure.
>
> Marihuana, like alcohol, does not alter the basic personality, but by relaxing inhibitions may permit antisocial tendencies formerly suppressed to come to the fore. Marihuana does not of itself give rise to antisocial behavior.
>
> There is no evidence to suggest that the continued use of marihuana is a stepping-stone to the use of opiates. Prolonged use of the drug does not lead to physical, mental, or moral degeneration, nor have we observed any permanent deleterious effects from its continued use. Quite the contrary, marihuana and its derivatives and allied synthetics have potentially valuable therapeutic applications which merit future investigation."
>
> The Marihuana Problem in the City of New York, by The Mayor's Committee on Marihuana (1944).

Smoking marijuana in the 1940's continued to be among the members of the underprivileged classes. There has always been a sprinkling of pot users among the Bohemian fringe of writers, intellectuals, artists and musicians. But this group was so small in comparison to the population as a whole that it never aroused suspicion.

The period following World War II was a decided change. The military is a great social leveler, throwing men of different social classes into such close contact that it was only natural for them to be exposed to each other's habits. One of these habits, marijuana smoking, was to rub off on a far greater percentage of the population than would be possible under stricter social mores "back home."

The Beat movement attracted a wide range of people from all levels of society--Blacks, college students, middle-class and disaffected. A central metaphor of this scene was blowing grass. The drug was slowly finding its level among an increasingly wider range of people.

The decade of the fifties came to be the turning point for the drug. Many Blacks were leaving the ghettos as a more distinct racial integration followed the early civil rights victories. The doctors, lawyers, executives and housewives of today emerged from the group who smoked their first marijuana cigarettes during the fifties and early sixties.

On many contemporary college campuses, marijuana is a fact of life. Varying with the college, it is estimated that

of the student body, five to 75% has experimented with the drug at least once (Lingeman, 1969). Although it is now branded as the younger generation's symbol of revolt, a "cop-out" for the disaffected, the number of serious-minded students who use marijuana seems to be on the increase. They smoke not as a reaction against society but to escape from the academic routines, to heighten ecstatic experience, to learn more about themselves or, in some cases, simply as a social habit in the way that another generation drinks alcohol (Blum, 1970).

Respectable types in the larger cities--lawyers, college instructors, journalists, artists--gather to smoke and socialize, not much different than a cocktail party, to "turn-on" and "drop-out" of their highly structured world. Some individuals from a still older generation--those who did not encounter marijuana during their college years--are now crossing over to the other side of the generation gap.

No one knows for certain how many Americans have tried marijuana. Former Commissioner James L. Goddard, of the U. S. Food and Drug Administration, was quoted by Time Magazine of April 19, 1968, as guessing that perhaps twenty million citizens have smoked pot at least once and that anywhere from three hundred thousand to five million smoke it regularly.

A million joints a day are smoked in California and the number increases about five per cent per month (Blum, 1970).

Whatever the true figure, it definitely points to a permanent shift in American social habits rather than being a passing fad. Cannabis, next to alcohol, is the second most popular intoxicant in the world.

III. THE CONTEMPORARY POT USER

Marijuana is certainly one of the oldest of all the socially used drugs, its use being recorded several thousand years before Christ. It may also be one of the most frequently used drugs, as current estimates vary between 200 and 300 million users throughout the world with 24 million users and experimenters in the United States (Hollister, 1971). During the past decade a remarkable increase in the social use of this drug has occurred, so that at the moment several million people in the United States, mostly youths, are reckoned to be periodic marijuana users.

A. GENERAL

The National Survey sponsored by the National Commission on Marihuana and Drug Abuse concluded that contemporary marijuana use is pervasive, involving all segments of the U.S. population. The survey estimated that 15% of the adults 18 and over and 14% of the 12-17 year olds have used marijuana at least once. Until recently, twice as many males as females had used it but now, in youthful populations, use is almost equally distributed.

The bulk of the users may more aptly be characterized as triers; two out of three who have tried marijuana have used it no more than one to ten times. In high use areas, about one in ten is reported to be a continuous user for a year or more (Kieffer, 1970). The most common reason for

discontinuing use is lack of interest; the effect lost its novelty and became boring. Other less common reasons are fear of legal hazards, social pressure and concern about physical and mental effects.

The most surprising statistic is the number of individuals who no longer use the drug. When asked why, 61% specified they had lost interest in the drug. Most users in this country have smoked the drug less than two years and very few have used it over ten years. Intermittent and moderate users average about one-half to one cigarette per occasion, usually at night. Heavy users smoke at least one to two cigarettes an occasion, with a few using as many as five consecutively. Marijuana use and the marijuana user do not fall into simple, distinct classifications. The spectrum of individuals who use or have used marijuana varies according to frequency, intensity and duration of use.

B. EDUCATION

Marijuana use does not appear to vary significantly by race, socioeconomic groups and occupation (slightly more predominant in the above-average incomes). Incidence of use seems to vary according to educational attainment. Among all adults not presently in school, the following percentage have used pot: five per cent of those with an eighth-grade education or less, 11% of those who completed some high school, 14% of high school graduates, 25% of those

who completed some college and 21% of those who were graduated (National Commission on Marihuana and Drug Abuse, 1972).

C. AGE

American society has considered youthful marijuana use to be a problem implying that those who use it are members of a deviant subculture (National Commission, 1972). It is interesting to note that society does not consider all alcohol use to be a problem. A number of recent surveys have shown that marijuana smoking is extremely common among a wide variety of young people. Most such studies estimate between 20 and 40 per cent of high school and college age youth have used it. It is clear that casual or experimental use of marijuana is not regarded by young people themselves as particularly deviant or unusual.

Every available report or study indicates that age is presently one of the most significant correlates of marijuana use. Of all those who have tried or used marijuana at least once, about half are in the 16-25 year age bracket, an interesting and enlightening bit of information, indicating that use is by no means confined to teenagers and young adults. (See figures 1 and 2 for specific breakdown by age categories.)

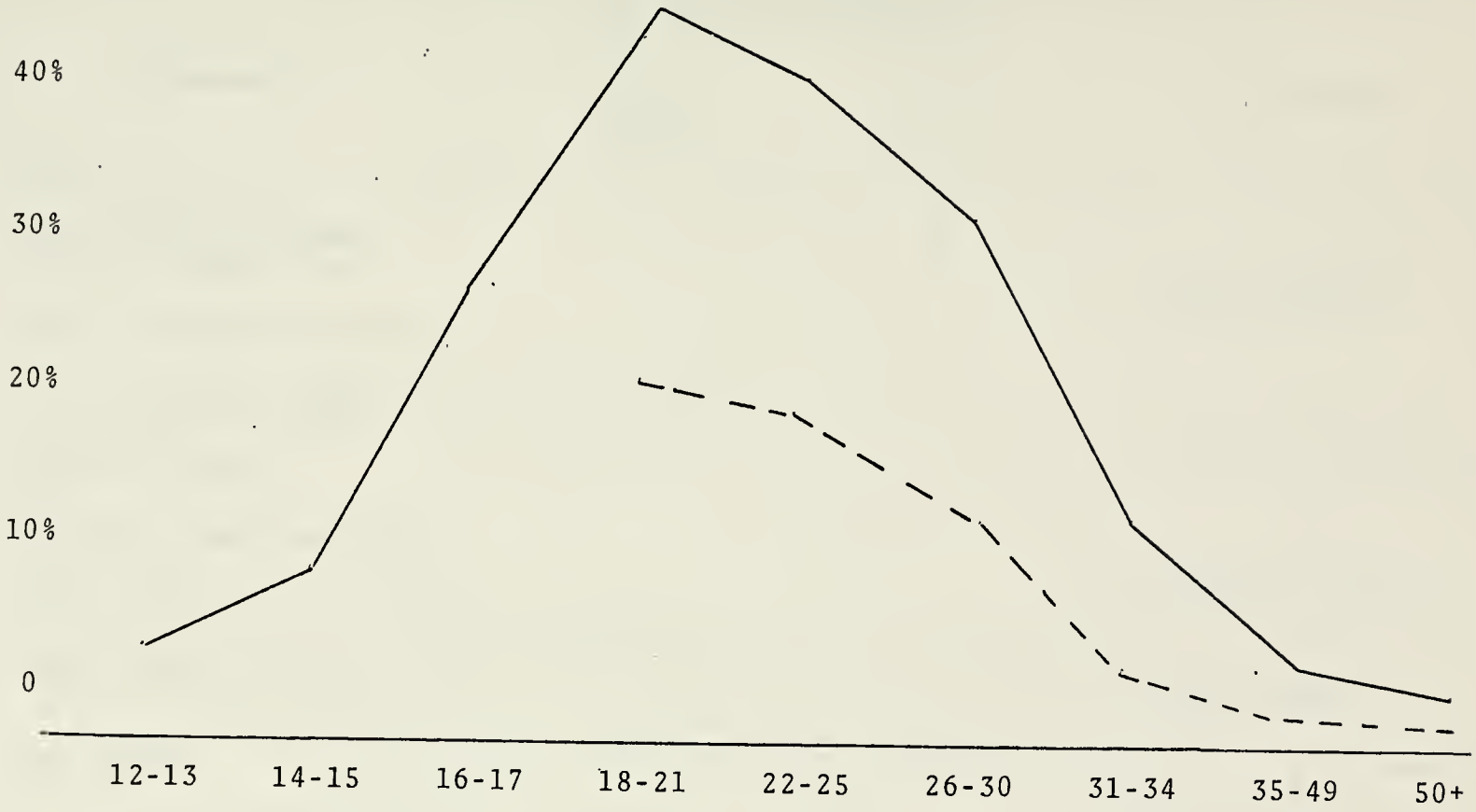

Figure 1. Marijuana Experience by Age
Per cent who have used it at least once (solid line)
and adults who use it now (dotted line).

(National Commission on Marihuana and Drug Abuse, 1972)

Frequency	Per cent of ever-users: Adults (18 and over)	Per cent of ever-users: Youth (12-17)	Designation
Have used marijuana but no longer use	41	45	Experimenters.
Once a month or less	9	15	
2-3 times per month	8	10	Intermittent users.
Once per week	4	9	
Several times per week	5	4	Moderate users.
Once daily	1	1	
More than once daily	2	4	Heavy users.
No answer	30	12	

Figure 2. Experience with Marijuana.

(National Commission on Marihuana and Drug Abuse, 1972)

D. PARENTAL INFLUENCE

The marijuana users frequently have medicine-taking, cigarette-smoking and liquor-drinking parents (Blum, 1970, and National Commission, 1972). In a series of Canadian studies, grade and high school students who said their mothers took tranquilizers daily were three times more likely to try pot than those who did not so report (National Commission, 1972). The incidence of adolescent marijuana use is strongly correlated with a parental trend toward increased leisure time and early retirement (National Commission on Marihuana and Drug Abuse, 1972). Many parents have oriented their children toward becoming independent, curious, educated, competent, adaptive and social adults (Blum, 1969).

E. PEER GROUP INFLUENCE

Every study available has indicated that the most influential factor determining marijuana use is "peer group influence." This influence is most effective on adolescents, college students and young adults who spend a great deal of time competing for status where status opportunities are minimal. In order to prove autonomy and competence to their peers, adolescents often participate in delinquent behavior. Indications are that an extremely large per cent of first time users receive their first joint from a friend (Blum, 1969). It is not until after a considerable period of time has passed that a casual smoker will seek his own source and maintain a stash for personal use (Geller, 1969).

F. MYTHS

This society has witnessed a great increase in the use of marijuana, but the increase has not brought a concomitant increase in knowledge about marijuana. Instead many myths, fears and beliefs exist which are often grounded in superstition rather than fact. One common belief is that the use of marijuana leads to experimentation with more powerful drugs, leading to addiction to heroin or morphine. The evidence presented in support of this contention consists of several studies in which a majority of heroin addicts were shown to have begun their drug experience with marijuana.

If any one thing can characterize why persons in the United States escalate their drug use pattern and become polydrug users, it is peer pressure. If any drug is associated with the use of other drugs, including marijuana, it is tobacco, followed closely by alcohol. The overwhelming majority of marijuana users do not progress to other drugs. Of all persons trying marijuana, 61% quit and never used anything stronger. The largest number of marijuana users in the United States are experimenters or intermittent users, and only two per cent of those who have ever used it are presently heavy users (National Commission, 1972). Only heavy users of marijuana are significantly associated with persistent use of other drugs.

G. PROFILES OF USERS

To ensure an understanding of this section, some definitions are required. The definitions are essentially those of the National Commission on Marihuana and Drug Abuse, 1972.

Type of User	Frequency of Use
Experimental	At least one trial, once a month or less.
Intermittent	Two to ten times monthly.
Moderate	Eleven times monthly to once daily.
Heavy	Several times daily.
Very Heavy	Almost constant intoxication with potent preparations; brain rarely drug-free.

	Duration of Use
Short term	Less than two years.
Long term	Two to ten years.
Very long term	Over ten years.

Several surveys have enumerated a variety of personality types or categories of marijuana users. These profiles below relate primarily to the patterns depicted above and to the meaning of marijuana use for various individuals. The traits described are not exclusive to marijuana users. A much larger number of individuals who have not used the drug can be similarly described.

1. Experimental Users

The experimental or casual smoker is motivated primarily by curiosity and a desire to share a social

experience. These individuals are characteristically quite conventional and practically indistinguishable from the non-user in terms of life style, activities, social integration and vocational or academic performance. Disciplined, optimistic and self-confident, experimenters appear to be as conventional, responsible, goal-oriented and orderly as non-users (National Commission on Marihuana and Drug Abuse, 1972).

2. Intermittent Users

The intermittent users are motivated to use marijuana for reasons similar to those of the experimenters. They use the drug irregularly and infrequently but generally continue to do so because of its socializing and recreational aspects.

Intermittent or social smokers rely on pot to help with the establishment of close social relations. This is a similar reason alcohol is used by an older generation (Geller, 1969). For the social user, marijuana often contributes to the establishment and solidification of close social relations among users similarly inclined. They are more inclined to seek and emphasize the social rather than personal effects of the drug.

Intermittent drug users are: politically and socially liberal, self-expressive, intellectually and culturally oriented, creative, flexible, independent, yet uncertain about the future (National Commission on Marihuana and Drug Abuse, 1972). Placing a high value on experimentation

and responsible, independent decision-making, they search for new experiences not necessarily inside accepted norms (Blum, 1969).

3. Moderate Users

The National Commission on Marihuana and Drug Abuse (1972) isolates and identifies a moderate user but does not distinguish him from a heavy or intermittent user. The most enlightening statement found is that they shared traits with both the intermittent and heavy users.

The moderate user would be more inclined to stress the personal effects of the drug than the intermittent user. As opposed to the heavy user, he would show no personality dysfunction. Also, unlike the heavy user, he would emphasize the expansion of awareness and understanding rather than the simple act of getting stoned.

4. Heavy Users

Heavy smokers or potheads seem to engage in the drug experience more often and are similar to the problem drinker. Like the alcoholic, they are in considerable psychological distress (Cross, 1972). Their initial and continued marijuana use is motivated not only by curiosity and an urge to share a social experience, but also by a desire for kicks and relief of anxiety or boredom (Geller, 1969). He builds his whole social life around getting stoned on marijuana.

Generally, the heavy marijuana user's life style, activities, values and attitudes are unconventional and at variance with those of the larger society. They are generally

more pessimistic, insecure, irresponsible and non-conforming than the individual in the preceding categories (Blum, 1969). Their mood and behavior are restless, uneven, and routine is especially distasteful. Heavy users are impulsive, pleasure-seeking, socially and emotionally immature, indifferent to rules and conventions, resistant to authority, curious, socially perceptive, skillful and sensitive to needs of others and possess unconventional, broadly based interests (National Commission on Marihuana and Drug Abuse, 1972, and WHO Technical Report Series, 1971).

5. Very Heavy Users

According to the WHO Technical Report Series (1971) and the National Commission on Marihuana and Drug Abuse (1972) there are very few Americans who can be classified as very heavy marijuana users.

Generally, these very heavy users consume high amounts of very potent preparations continually throughout the day so that they are rarely drug-free. These individuals show strong psychological dependence on the drug, requiring compulsive drug-taking. Clear-cut behavioral changes occur in these extreme cases. The very heavy user tends to lose interest in all activities other than drug use.

H. SUMMARY

The attempt to classify cannabis users is primarily for descriptive purposes and it is not to be implied that all marijuana users fit neatly into these slots. It is important

to realize that there is no typical pot user and what determines who uses it and who does not is complicated at best. An important clue is that using marijuana is strongly centered around and occurs with specific social and cultural settings. The individual's biological characteristics and personality probably play an important part in the pattern of use. However, the cultural and social setting play the main part in determining who will use it at all.

The individual who continues to use pot appears to be a different type of person oriented toward a different part of the social system. Most function well within the straight society and maintain successful careers. Seemingly they are turned off by the traditional "adult-oriented reward systems."

Their interests and activities emphasize an informal "in-crowd" divorced from their conventional lives. The meaning of pot use by this peer group accentuates the ideological character of usage. In contrast to the casual user, these in-people seem to build their self-identity around the marijuana using peer group.

IV. THE EFFECTS OF MARIJUANA

The scientific definition of a drug used by the WHO Scientific Group (1971) and the National Commission (1972) is: any chemical substance which has an action on living tissues. A psychoactive drug is any substance capable of modifying mental performance and individual behavior by inducing functional or pathological changes in the central nervous system.

As defined, psychoactive drugs exert their major effect on the state of the mind. The definition implies neither positive nor negative meanings. Chemical substances are not inherently good or bad. All substances which man has used including medicines and foods have good and bad effects. The classification of any drug effect as either beneficial or harmful often depends on the values the classifier places on the expected effects.

A. SOME FACTORS CONTRIBUTING TO THE DRUG EFFECT

There are a number of factors which exert an important influence on the psychopharmacologic effects of marijuana. This is true for all drugs. Failure to take these factors into consideration probably accounts for a large part of the inconsistency and controversy surrounding the description of the drug effect (WHO Technical Report Series, 1971). It is important to keep this in mind when reading the physiological and psychological effects sections.

1. Dosage

The dosage or quantity of the drug (tetrahydrocannabinol) consumed is the most important variable (National Commission on Marihuana and Drug Abuse, 1972). Symptoms after taking cannabis preparations depend on the dose as well as on the setting, expectations, and personality of the user (WHO Technical Report Series, 1971). Several studies highlighted by the WHO Report (1971) indicated that very carefully measured dosages of different quantities of the drug produced different symptoms in the same individual. Most dosages were given orally or by injection because of the inability to measure the quantity of active drug injested by smoking.

As with most drugs, the larger the dose taken, the greater the physical and mental effect will be and the longer the effect will last on a given individual. Most American "joints" cause mild social highs as compared with the more potent hashish.

2. Method of Administration

To obtain the maximum effect from marijuana it must be smoked by a technique that is somewhat different from that of smoking cigarettes and must be learned by practice. Failure to use this technique may partly account for the apparent lack of effect when marijuana is first smoked by a novice.

Method of use has a considerable bearing upon the effect. Cannabis can be eaten in the form of a paste,

drunk as a fluid, taken as a pill, smoked in a pipe or as a cigarette or taken intravenously. Smoking, in the form of a cigarette is the preferable method, allowing control over the intoxication, and therefore, a more satisfying experience for the smoker. Puffing at a joint certainly exerts a measure of control over intake of the drug, enabling the user to calculate the progressive stages of his high. The smoker of marijuana usually will smoke only so much of the drug for fear of shattering his high (National Commission, 1972).

3. Metabolism

The speed with which the body changes the drug and provides for its elimination from the body can effect the high. For instance, individuals with extensive exposure to marijuana or other drugs metabolize more rapidly than those with no drug exposure.

4. Set and Setting

An important variable in discussion of the effects of marijuana is the social and emotional environment; that is, the individual's "set" and "setting" (Weil, 1973).

"Set" refers to a combination of factors that create the "internal environment" of the individual, including personality, life style and philosophy, past drug experiences, personal expectations of drug effect and mood at the time of the drug experience (Weil, 1973, National Commission, 1972, and WHO Technical Report Series, 1971).

"Setting" is the "external environment" and social context in which the individual takes the drug (Weil, 1973). These factors are most influential when drugs are taken at low dosages and, like marijuana, produce minimal physical and subtle subjective mental effects. Weil (1973) states that the influence of set and setting dwarfs the influence of the drug itself.

The effect of marijuana generally will be quite different for an intermittent social adult smoker from that of a youth deeply involved in the youthful drug subculture.

Weil (1973) calls Marijuana an active placebo, a substance whose apparent effects on the mind are actually placebo effects in response to minimal physiological action. There have been several experiments where the control group was given a placebo cigarette and actually experienced a high along with those receiving the active drug.

5. Tolerance

The single most important effect for legal classification is that the user does not build up a tolerance to the drug and, thereby, have to increase his dosage (WHO Technical Report Series, 1971, and National Commission, 1972). On page 12 of this thesis is the definition of drug addiction according to the National Commission (1972). One of the characteristics of drug addiction is an increasing tolerance to the drug, therefore, a tendency to increase the dosage. That the user does not build up a tolerance and, in fact, may experience a

reverse tolerance with an increase in the learning curve, eliminates marijuana as an addictive drug.

B. PSYCHOLOGICAL EFFECTS

If pot is inhaled deeply, symptoms may appear (more quickly in the experienced user) after one or two drags and a feeling of well-being and relaxation follows in a minute or two. Thinking is dream-like, visual and time perception changes occur, and judgment is impaired either in the direction of overestimation of capability, or sometimes in becoming overly suspicious (Keiffer, 1970). The effect on personal, social and vocational functions is difficult to predict. In most instances, the marijuana high is pleasant. In rare cases the experience may be unpleasant, compounded by anxiety and panic, and in a few, psychosis. The unpleasant effects have never lasted longer than a few weeks.

Psychologically the effects include vague dread or anxiety or fear of bodily harm, especially among inexperienced users, illusion, hallucinations, depersonalization, delusions, confusion, restlessness and excitement. Other effects may include a wavelike aspect to the flow of perceptions; euphoria; giggling and hilarity; perception of some parts of the body are distorted; depersonalization (double consciousness), the sense that one is both within and outside oneself; spatial and temporal distortion, i.e., far objects seem near (hence the danger of driving a car), a

minute seems to stretch elastically; the feeling of grandiosity and mystical insight into the true meaning of life, as well as a detached, amused view of cares and suffering; a heightened sensuousness and perception of colors, music, pictures; a more favorable sense of personal worth and increased sociability (Lingeman, 1969, WHO Technical Report Series, 1971, Halikas et al., 1971, and Hollister, 1971).

Important to remember is that these are perceived effects and in many cases there is no improved or increased performance. Effects on performance will be discussed later in this chapter.

C. PHYSIOLOGICAL EFFECTS

Marijuana effects are on the near end of a continuum with LSD as its opposite end. Physiological alterations induced by the drug include (within a few minutes of consumption) dizziness, buzzing and cottony sounds, a lightness in the head; followed by dryness of the mouth and throat (probably due to the harshness of the marijuana smoke); unsteadiness in movement, loss of bodily coordination and a feeling of heaviness in the extremities; hunger and/or a craving for sweets, nausea and vomiting occasionally; sensations of warmth around the head and the body; burning irritation of the eyes; blurring of vision; tightness in the chest; palpitations or rapid beating of the heart; ringing or pressure in the ears; and occasionally an urge to urinate or defecate (Lingeman, 1969).

D. EFFECTS ON PERFORMANCE

Marijuana does exert some effect on visual motor coordination, visual coding, time estimation and immediate memory particularly involving complicated tasks--digit symbol substitution and complex reaction time (Duckman, 1972).

Erich Goode conducted a survey of a group of his college students comparing drug use and grades. The highest grades were earned by the casual and infrequent marijuana smoker, the lowest by the heaviest user; the abstainer earned only slightly higher than the heavy user. There seemed to be no difference between the grades of the abstainer and those of the student who has tried, at least once, between one and three drugs. But grades decreased significantly when the student had tried four or more different kinds of drugs (Goode, 1972).

According to Ernest L. Abel, marijuana has deleterious effects on human memory. The marijuana condition (each subject reached their own subjective "high") interferes with the learning process because the subjects were unable to concentrate on the task long enough for them to perform to their best ability. This inability to concentrate is the most likely reason memory is adversely affected by marijuana (Abel, 1971).

Clark and Nakashima also reported the disruptive effects of marijuana on sequential thought, suggesting impairment of rapid decision making and short term memory. They also noted,

as have others, a great variability in performance during marijuana intoxication which may be related to the fact that the effects seem to come and go in cycles and waves (Clark and Nakashima, 1968).

In a study that tested driving skill, using a driving simulator, in subjects who were tested following the smoking of two marijuana cigarettes over a thirty minute period, it was shown that driving was little impaired except that speedometer errors were increased. However, the subjects without exception stated they did not think they could drive a car while high (Crancer, et al., 1966).

In a report by a WHO scientific group it was concluded that marijuana significantly impairs cognitive functions, the impairment increasing in magnitude as the dose increases or the task is more complex or both. The degree of impairment of psychomotor performance is larger for "naive" subjects (i.e., those who have no experience with marijuana), for large doses, and for complicated tasks (WHO Technical Report Series, 1971). Marijuana users often report increased auditory sensitivity and enhanced appreciation of music. Test of pitch discrimination and other measures purported to measure musical aptitude were, however, unchanged or impaired following the smoking of marijuana by nonmusicians (WHO Technical Report Series, 1971).

Some people have also reported a subjective sense of enhanced touch, taste and smell while using marijuana.

However, measurements of threshold for touch, vibrations, two-point discriminations, olfactory acuity and visual brightness have shown no change (Caldwell, et al., 1969).

The above effects are reactions only while in a marijuana condition. There would be little problem as long as an individual was not stoned on pot while "on the job." The author found no study that claimed a hangover problem even remotely similar to the alcohol problem.

E. SUMMARY

The following is a summary of marijuana effects related to frequency and duration:

Experimenters and intermittent users, casual smoker and social smoker	Little or no psychological dependence. Influence on behavior related largely to conditioning to drug and its value to the user. No organ damage.
Moderate user, social smoker	Moderate psychological dependence increasing with duration of use. Behavioral effects minimal in those with emotional stability. Probably little if any organ injury but possibility of birth defects for pregnant users.
Heavy users, Potheads	Strong psychological dependence. Detectable behavior changes. Possible organ injury. Effects more easily demonstrable with long-term use.
Very heavy users	Users in countries where use of Cannabis has been indigenous for centuries. Very strong psychological dependence to point of compulsive drug seeking and use. Clear-cut behavioral changes. Great incidence of associated organ injury.

Any psychoactive drug is potentially dangerous to the individual, depending on the intensity, frequency and duration of use. Marijuana is no exception. Because the particular hazards of use differ for different drugs, it makes no sense to compare the harmfulness of different drugs. You can only compare the harmfulness of specific effects on the individual. Looking only at the effects on the individual, there is little danger to the casual and social smoker. The risk seems to be in the prolonged, heavy use of the pothead.

V. POT AND THE ESTABLISHMENT

Although marijuana is taken by most users for curiosity or pleasure, the non-using public still feels seriously affected by the use of the drug. The National Survey, conducted in November 1971, indicated that American adults regarded drug abuse as the third most pressing problem of the day, closely following the economy and Vietnam (National Commission on Marihuana and Drug Abuse, 1972).

The marijuana explosion of the mid-sixties occurred within the context of thirty years of instilled fear. Although based much more on fantasy than on proven fact, the marijuana evils took root in the public mind, and now continue to color the public reaction to the marijuana phenomenon. Even beyond the violation of law, the widespread use of marijuana is seen as a threat to society in other ways. The National Survey identified three general categories in which the public feels threatened: public safety, public health and dominant social order (National Commission, 1972).

In terms of public safety, the concern is with the relationship between marijuana and aggressive and criminal behavior. Threats to the public health refer to effects on the user, lethality, psychosis, addiction capability and the "judas drug" potential. The threat to the dominant social order encompasses the Protestant and Judeo-Christian

Ethics. The mass media have presented the drug along with other youth oriented problems; therefore, in the eyes of many adults, use of the drug is connected to idleness, lack of motivation, hedonism and sexual promiscuity. The "dropping out" or rejection of the established value system is viewed with alarm. Marijuana has become a symbol of the rejection of cherished values (Geller, 1969).

The symbolic aspects of marijuana with all its attendant emotionalism seems to be at the heart of the marijuana problem. Marijuana use is age-specific, and in times when the generation gap is a popular chasm in which to throw social problems, it symbolizes the cultural divide. For a youth who thinks it cool to protest, to oppose, to demonstrate, marijuana is a suitable agent of mini-protest (Bloomquist, 1968).

For the adults, the past decade was a disturbing time. The net effect of the violent sixties was the general apprehension that the nation was coming apart at its "institutionalized" seams. The fear brought along a desire to shore up the institutions and bail out the establishment.

Drug use, particularly marijuana, is highly visible and an easily defined target--it is simply against the law. Marijuana, for many adults, symbolized disorder in a society frustrated by increasing lawlessness. It followed that as adult insistence on application of the law hardened, thereby, further escalation of the use of marijuana became a symbolic issue.

Many persons opposed to marijuana use look exclusively to the law for social control. Conceivably, this is a major impediment to a rational policy of control and understanding. It is also a manifestation of another contemporary problem: an unwillingness or inability to police social and personal activity through the family, church and school (National Commission, 1972).

The law, criminal law in particular, is most ineffective when the crime is largely invisible and moral in nature and the social or non-legal institutions are incapable or unwilling to exercise moral sanctions. No legal system works well alone and the control of drug abuse is a sterling example.

New York State spent $400 million in three years on drug control only to find that the number of users had tripled, or in some cases, quadrupled, and that the cost of caring for each user averaged $12,000 per year (Szasz, 1972).

A. POT AND CRIME

The belief that marijuana is linked to crime and other antisocial conduct first started during the 1930's. As a result of a concerted effort by governmental agencies and press to alert the populace to the dangers of marijuana use, marijuana was declared criminogenic. For thirty years few efforts were made to compare the incidence of violent or aggressive behavior in representative samples of both user and non-user populations. As a result, the popular

stereotype of the marijuana user is physically aggressive, lacking in self-control, irresponsible, mentally ill and perhaps most alarming, criminally inclined and dangerous (Lingeman, 1969).

There are several premises concerning the relationship between marijuana and antisocial conduct. The earliest and most popular is marijuana causes the relaxation of ordinary inhibitions, increasing impulsive and aggressive tendencies, thus leading to violent criminal acts (Geller, 1969).

A second theory assumes that marijuana impairs judgment, distorts reality and diminishes the user's sense of personal and social responsibility. This leads to non-violent forms of criminal or delinquent conduct, such as sexual promiscuity to grand larceny. Regular or heavy use over an extended period of time is felt to interfere with the development of social and moral maturity.

A study by the California Bureau of Narcotic Enforcement, "The Narcotic Problem; A Brief Study-1965," is a typical document discussing the inherent evils of marijuana. It states:

> "Its greatest dangers are that the intoxication and hallucinations produced may lead to violent conduct, such as attacking a friend, thinking that it is necessary for self-defense. The user of marijuana is a dangerous individual and should definitely not be underestimated by police officers...known users of either cocaine or marijuana...may be dangerous, hard to handle, and might resort to any act of violence." (Geller, 1969)

Another view published as fact for popular consumption is that even sex does not satisfy the abnormal urges induced

by marijuana. There is still the necessity for further excitement, more emotional release. "That is when the guns are grabbed, the knives waved and the razors swung. And all that is a marijuana user's idea of what is normal!" (Williams, 1969).

The preceding viewpoints are in the minority as the numerous studies investigating the connection between marijuana and crime are unanimous in their agreement that no such link exists. The LaGuardia Report considered it far more likely that the smokers were simply petty criminals who just happened to use pot.

The Ad Hoc Panel on Drug Abuse at the 1962 White House Conference states: "Although marijuana has long held the reputation of inciting individuals to commit sexual offenses and other antisocial acts, evidence is inadequate to substantiate this." (Geller, 1969)

Between 1934 and 1939, Dr. Walter Bromberg, as psychiatrist in charge of the Psychiatric Clinic of the Court of General Sessions in New York, conducted two full-scale statistical studies on marijuana smoking and the incidence of crimes of violence. Bromberg has made it clear that his studies showed no direct correspondence between violent crime and marijuana. Bromberg stated in his first report of a two-year survey of over two thousand felonies not one case of marijuana smoking was discovered. None of the assaults or sex crimes committed were due to marijuana intoxication.

Bromberg also stated that of a total of 540 drug offenders who came before the court, only nine per cent of them were marijuana users (Geller, 1969).

In 1967, Dr. Sanford Feinglass of the University of California Medical School stated that the effect of marijuana depends more on the individual's own natural inclinations than on any sinister property residing in the drug.

Dr. H. B. Murphy of McGill University wrote in "The Cannabis Habit: A Review of Recent Psychiatric Literature" published in the Bulletin of Narcotics: "Most serious observers agree that cannabis does not, per se, induce aggressive or criminal activity, in that the reduction of the whole drive leads to a negative correlation with criminality rather than a positive one." The drug, he points out, may release repressed feelings of hostility, but alcohol will do the same. One is more likely to act under the influence of alcohol than under the calming influence of marijuana.

The once prevalent belief among the general public and the professional law enforcement, criminal justice and research communities that marijuana causes crime, violence, aggression and delinquency has moderated appreciably over the years.

The National Commission on Marihuana and Drug Abuse stated: "There is no systematic empirical evidence, at least that drawn from the American experience, to support the thesis that the use of marijuana either inevitably or

generally causes, leads to or precipitates criminal, violent, aggressive or delinquent behavior of a sexual or nonsexual nature."

Laboratory studies of effects have revealed no evidence to show that marijuana's chemical properties are, by themselves, capable of producing effects which can be interpreted as criminogenic: that is, that marijuana is an independent cause of criminal or aggressive behavior (Kieffer, 1970). The effects observed suggest that marijuana may be more likely to neutralize criminal behavior and aggressive acts.

Recent evidence has shown that marijuana and criminal, aggressive and delinquent behavior are statistically and significantly correlated when measured together in isolation from variables which are related to marijuana use and other forms of antisocial behavior. The data also show, however, that this statistical association either attenuates significantly or disappears completely when the proper statistical controls are applied. It is dependent on such factors as age, race and education of the user--the type of community in which he lives; and his involvement in a criminal or delinquent subculture (use of other drugs; drug buying and selling activities; associations with friends who also use, buy and sell cannabis or other drugs) (National Commission Appendix, 1972).

Marijuana suffers most from the company it keeps. From the perspective of marijuana in relationship to antisocial

behavior of a criminal or violent nature, the drug cannot be said to constitute a significant threat to the public safety. If its use is to be discouraged, it must be discouraged on grounds other than on its role in the commission of criminal or violent or delinquent acts.

B. POT AND THE PUBLIC HEALTH

Public health is broadly defined as all health problems which affect people as a group or whole and difficult to treat on a traditional physician-to-patient basis. This category would include social and economic dependence and incapacity (National Commission, 1972).

Viewing the public health picture on a large scale, the United States in 1972 may still be considered fortunate with regard to marijuana usage. While it is the third most popular recreational drug, behind alcohol and tobacco, it has not been institutionalized and commercialized. There are 24 million Americans who have tried it, with 8.3 million still using it. A fact of some significance is that 71% of all adults (18-years and older) and 80% of youth (12-17 years) have never used marijuana. Also the majority of those who continue to use pot do so intermittently, between one to ten times per month.

The greatest risk population is the pothead or heavy user. Because the risk of psychological and physical harm from marijuana increases with frequency, quantity and duration of its use, these 500,000 potheads are the greatest danger to public health.

The perceived risks as presented by the National Commission are: (1) potential to kill; (2) possibility of genetic damage; (3) immediate adverse physical or mental effects; (4) long-term physical or mental effects including psychosis and "amotivation" syndrome; (5) "addiction" potential; (6) progression to other stronger drugs, especially heroin (judas drug potential).

The National Survey sponsored by the National Commission on Marihuana and Drug Abuse revealed that 48% of adults believe that some people have died solely from the ingestion of marijuana. A careful research has revealed that not one fatality in the United States has resulted from marijuana use. Experiments with monkeys demonstrated that a lethal dose is for all practical purposes unachievable by a human smoking marijuana (National Commission, 1972). This is in marked contrast to alcohol and barbiturate sleeping pills. As an aside, 89% of all adults in the same survey believe that some people have died from using alcohol.

Early findings from studies of chronic (up to 41 years), heavy (several ounces per day) cannabis users in Greece and Jamaica failed to find evidence of genetic or chromosome damage or teratogenic or mutagenic effects (National Commission Appendix, 1972). Fetal damage cannot be ruled out. According to the second annual report of the National Institute on Mental Health on "Marijuana and Health" made public February 11, 1972, women in their child-bearing years should

avoid marijuana and other drugs which have unknown potential for producing birth defects.

The immediate intoxicant effects of marijuana on the mental functions of the user do have potential health significance both for the user and others with whom he comes in contact. A predisposed individual might experience acute panic reactions and transient psychotic-like state or other underlying instability (Geller, 1969). The most undesirable consequences of the immediate effects would be manifest in operation of machinery or in tasks requiring fine psychomotor precision and judgment.

Long-term physical and mental effects have not been documented conclusively and, thus far, no outstanding abnormalities have been observed in the United States. The long-term effects or motivation is unsure at best. Chronic, very heavy use of cannabis has been credited with destroying the desire to achieve in some male members of lower socioeconomic populations observed in Jamaica, Greece and Afghanistan. It is not certain that the subject had any motivation or desire to achieve to begin with, considering the lack of socio-economic mobility in those countries.

Reports describe lethargy, instability, social deterioration, a loss of interest in virtually all activities other than drug use. This social and economic disability also results in precipitation and aggravation of psychiatric disorders (overt psychotic behavior) and possible physical complications among the very heavy, very long term users of

high-potency cannabis products (National Commission Appendix, 1972). The major problem is apparently that the chronic, heavy use of marijuana may jeopardize social and emotional adjustments of the adolescent. On the basis of past studies, the chronic, heavy use of marijuana seems to constitute a high-risk behavior, particularly among predisposed adolescents. This consideration is especially critical when the emotional problems of adolescence are considered.

Evidence indicates that heavy, long-term cannabis users may develop psychological dependence. However, the level of dependence is no different from "the syndrome of anxiety and restlessness" seen when an individual stops smoking cigarettes (National Commission Appendix, 1972). Cannabis does not lead to physical dependence: no torturous withdrawal syndrome follows the sudden cessation of chronic heavy use of marijuana (WHO Technical Report Series, 1971, and National Commission on Marihuana and Drug Abuse, 1972).

If any one statement can characterize why persons in the United States escalate their drug use pattern and become poly-drug users, it is peer pressure (Blum, 1969, and National Commission, 1972). If any drug is associated with the use of other drugs, including marijuana, it is tobacco, followed closely by alcohol (National Commission, 1972). The National Commission discovered that study after study invariably reported an association between the use of tobacco and, to a lesser extent, of alcohol with the use of marijuana and other drugs. The overwhelming majority of marijuana

users do not progress to other drugs. The largest number of marijuana users in the United States are experimenters or intermittent users, and only two per cent of those who have ever used it are presently heavy users. Only the heavy users of marijuana are significantly associated with persistent use of other drugs (Mirin, 1971).

From what is known about the effects of marijuana, its use at the present rate does not constitute a major threat to public health. However, marijuana is not an innocuous drug and positive, strict legal controls are warranted to reduce its availability to minors.

C. POT AND THE DOMINANT SOCIAL ORDER

For more than 30 years marijuana users were thought to constitute a threat to the well being of the community and the nation. The original users of grass were considered outsiders or marginal citizens. Included were prostitutes, itinerant workers, merchant seamen and drifters. Concerns about marijuana use in the 1930's related directly to a perceived inconsistency between the life styles and values of the marginal citizens and the social and moral order. Their potential influence on the youth was of particular concern. When marijuana was first legislated against, a recurrent fear was that use might spread among the youth (Lingeman, 1969).

As pot spread to include the affluent, middle class, white high school and college youth as well as black and

brown lower socioeconomic citizens of urban core areas, the concept of marginality blurred and the establishment started looking for specific answers.

As the use of pot increased, the "marginal and threatening citizens" have been replaced by a more middle class, white, educated and younger population of pot smokers (Geller, 1969). The typical user no longer exists, and therefore, the question now properly focuses on who poses a threat to the dominant order.

Despite the fact that substantial numbers of adults use marijuana, society does not appear to feel greatly threatened by this group (National Commission, 1972). This is probably because this group included a considerable number of middle class individuals who are regularly employed and whose occupational and social status appear to be similar to those of peers and colleagues who do not "puff grass." In most cases, the adult is mature, responsible and discreet, not marked by radical idealogues. Because the adult user maintains low visibility, is primarily a recreational user, is not usually involved in radical political activity and maintains a life style largely the same as his non-using neighbors, he is not ordinarily viewed as a threat to the dominant social order (National Commission, 1972).

On the other hand, the widespread use of marijuana by millions of young people (12-25 years of age) has been viewed as a direct threat to the stability and future of the social order. The youthful marijuana use has been interpreted as

a rejection of the principles of law, a lack of concern for individual social responsibility and a threat to the establishment.

Implicit in this view is the assumption that a young person who deliberately uses pot to spite the law cannot be expected to assume a responsible adult role. The supporting evidence of this fear is drawn mainly from the vocal and visible "counter-culture" to which marijuana is often tied. The National Survey illustrates the extent to which the older adult perceives youthful marijuana use as part of a much larger pattern of behavior which paints a black picture for the future of the country.

First, the older the adult, the more likely he is to picture the marijuana user as leading an abnormal life. Only nine per cent of the over-50 generation agreed with the statement that "most people who use marijuana lead a normal life." Nineteen per cent of the 35-49 age group and 29% of the 26-34 year olds were of the same belief. Half of the young adults (18-25) considered marijuana use normal.

Second, the marijuana user, as seen by the adult, is typically a young dropout from society. He does not like to be with other people, is uninterested in the world around him, is usually lazy and has an above-average number of personal problems.

Third, the less optimistic the adult is about the youth, the more likely he was to oppose alteration of the marijuana

laws and to envision major social dislocations if the laws were changed. Fifty-seven per cent of the adults are in general agreement with the statement, "If marijuana were legal, it would lead to teenagers becoming irresponsible and wild." Among these adults who most disapproved of youthful behavior in general, 74% agreed with the preceding statement. Similarly, 84% of the non-approving adults favored stricter laws on pot.

Marijuana's symbolic role in widening the chasm of the generation gap has brought pot into the category of a social problem. The youthful pot user of today is seen as a greater threat to the establishment than the marginal user of the 1930's, 40's and 50's or the adult user of the present day.

With each succeeding generation the youth have had it better than their parents and every youthful generation has expressed some form of discontent. Many adults consider the present level of youthful discontent to be of much greater intensity than the past generations. Adults have difficulty understanding why such privileged young people spend so much time trying to discredit those institutions of society which have made possible the privileges which those youths enjoy.

Marijuana is attractive to many young people for the sense of group unity and participation which develops around the common use of the drug. This sense tends to be intensified by a feeling of "common cause" in those circumstances where users are considered social or legal outcasts. Marijuana

has become the focus and symbol of the generation gap and for the youth it has become the rallying point of protest against the establishment and adult values (Geller, 1969, and Lingeman, 1969).

Many youths have also found pot to be a pleasurable and socially rewarding experience. And for a certain other number of young people, marijuana and the mystique of the experiences eases the pressures of adolescence by helping them share their feelings, doubts, inadequacies and aspirations with peers with whom they feel safe and comfortable (Blum, 1969).

Youthful marijuana use as a social by-product could be considered a success in terms of the educational and socialization process. Our society values independence of thought, experimentation and the empirical method, often reinforcing this attitude by such advertising cliches as "make up your own mind," "be your own man," "judge for yourself" (National Commission, 1972).

The establishment appears to be concerned about marijuana primarily because of its perceived relationship to other social problems; dropping out, dropping down, radical politics and the work ethics. They concluded that anyone who allowed his hair to grow or gave little attention to his clothing or appearance was probably a drug user with little or no motivation to achieve and no interest in conventional goals. Parents strongly fear that pot use leads to idleness and "dropping out."

Some individuals possess particular personality as well as psychosocial characteristics which in specified instances could produce amotivation or dropping out. However, little likelihood exists that the introduction of a single element such as marijuana use would significantly change the basic personality and character structure of the individual to any degree (Blum, 1969). An individual is more likely to drop out when a number of circumstances have joined at a given point in his lifetime, producing pressures with which he has difficulty in coping. These pressures often coincide with situations involving painful or difficult judgments resulting from a need to adjust to the pressures of the social environment.

A number of researchers and clinicians have observed the use of cannabis in other societies, particularly among poor, lower class males. Most of these individuals display little aspiration or motivation to improve their lot. In the Middle East and Asia where hashish is used, the societies are highly stratified with people in the lower classes having virtually no social or economic mobility. Poverty, deprivation and disease were the conditions into which these people were born and where they will stay regardless of their use of cannabis. Any society will have a number of individuals who, for various reasons, are not motivated to strive for personal achievement or participate fully in the life of the community. It is difficult to make a determination

whether cannabis use influences a person to drop out and, if it does, to what extent (National Commission, 1972).

Apart from dropping out is the concern about dropping down or under-achieving. It is feared that youthful interests in the drug and subculture will undermine or interfere with academic or vocational career development and achievement.

According to the National Commission (1972) and Blum (1969) no conclusive evidence was found demonstrating that marijuana by itself is responsible for academic or vocational failure or dropping down, although it could be one of the many contributory reasons. Many studies reported that the majority of young people who have used pot received average or above average grades in school, although they are less likely to be at the top of their class (Robbins, 1970).

Radical politics is a confused area because the youthful anti-war groups were organized into two segments. The first group would be the concerned, frustrated, confused and well-meaning demonstrators. The second segment consisted of organizations of individuals whose stated purpose was to undermine the social and political stability of society through violent means.

Television and some of the news magazines sometimes portrayed the image of the group of young people plotting the overthrow of the nation by violent means while under the influence of pot. At the various gatherings, a number of the youth protesting in the mass groups did "puff grass." But

the individuals who handle the explosives could never succeed under the influence of pot--it would be to the advantage of the establishment if they did use cannabis.

Radical politics is considered a mechanism through which larger numbers of young people are introduced to pot and other drugs. The involvement of large numbers of youth in political activism and public concern about drug use have muddied the waters of marijuana use and have led to a broadening of the concerns about marijuana on the part of adults.

Not surprising is the fact that 45% of the adult respondents in the National Survey felt that marijuana is often promoted by people who are enemies of the United States. Nor is it surprising that this belief is a function of age. While 22% of young adults (18-25 years of age) identified marijuana with national enemies, more than one-half (58%) of those persons 50 years and older did so.

Society has become increasingly alarmed by certain attitudes of today's youth which seem to stress pleasure, fun and enjoyment without paying the price of a disciplined and sustained work effort. The great majority of young people are performing their tasks in industry, the professions and education quite effectively (Blum, 1969). Many young people delay their entry into the work force in order to enjoy the fruits of our society. This does not mean that they will not contribute their best effort to the continued growth and advancement of the nation.

D. SUMMARY

The present confusion about the effects of youthful marijuana use upon the dominant social order is caused by a variety of interrelated social concerns, many of them emotionally charged issues, including antiwar demonstrations, campus riots, hippie life styles, the rising incidence of crime and delinquency and the increased usage of all illicit drugs. Viewed against the background of profound changes of recent years in the fields of economics, politics, religion, family life, housing patterns, civil rights, employment and recreation, the use of pot by the young must be seen as a relatively minor change in social patterns of conduct and as more of a consequence of than a contributor to these major changes.

When the issue of marijuana use is placed in the context of society's larger concerns, pot does not emerge as a major issue or threat to the social order. Rather it is part of the whole of the adults' concerns about the growth and development of the young people. It is unlikely that marijuana will affect the future strength, stability or vitality of the social and political institutions. "The fundamental principles and values upon which the society rests are far too enduring to go up in the smoke of some reefer."

VI. THE SURVEY

The intent of the survey was to measure the contrast in attitudes, beliefs, knowledge and experience concerning marijuana of naval officers 29 and younger with those 30 and older attending the Naval Postgraduate School (NPS). In addition, it was used to compare the NPS naval officer with results of the adult portion of the National Survey conducted by the National Commission on Marihuana and Drug Abuse.

A. METHOD

1. National Survey

The Response Analysis Corporation national probability sample was used for this study, augmented by supplementary samples of residents in the areas of three cities (Chicago, Omaha and Washington, D.C.). Sample locations and households, and individuals to be interviewed, were specified by the sampling plan and by explicit instructions to the interviewers. None of the selection steps was left to the discretion of the interviewer.

The study design called for data from a nationwide probability sample of adults, and a sample of young people age 12-17. The experience for adults consisted of both a face-to-face interview and the completion of a self-administered questionnaire. (The youth sample is not investigated in this thesis and thus will not be covered to any length.) The

interviewers were in the room with the respondents when the questionnaires were being filled out, but they were instructed not to help with or look at the completed questionnaire. The sequence of steps used in the development of the sample included:

(a) Selection of a national sample of 103 primary areas (counties and groups of counties) stratified by geographic region, type of community and other population characteristics.

(b) Selection of approximately 200 interviewing locations, or secondary areas (census enumeration districts or block groups) for the national sample, and 25 interviewing locations in each of the three metropolitan locations used for supplementary adult samples.

(c) Field counts by trained interviewers to divide interviewing locations into sample segments of 10 to 25 housing units.

(d) Selection of specific sample segment in each interviewing location for field administration of the survey.

(e) Prelistings of housing unit addresses in most sample segments selected for the study.

(f) Selection of specific housing unit addresses to be contacted for the survey, and an advance mailing of a letter urging cooperation.

(g) Interviewer visit to each sample household to obtain listings of residents in eligible age ranges.

(h) Random selection, using a specific scheme assigned for each sample household, of persons to be interviewed (in any one household, the number of persons designated as part of the study sample was none, one, or two).

In essence, the interviewer goes to a preselected and forewarned household to administer an adult interview of 61 questions and an anonymous self-administered questionnaire of 33 questions and to make several subjective evaluations, e.g., degree of cooperation and socioeconomic status. The

"average" length of time to do this was estimated as 40-45 minutes.

After all the questions are answered, the interview and questionnaire are sealed in an envelope and mailed by the interviewer and subject. The subject's identification was not on any of the devices. There are feedback questions on the self-administered questionnaire which ask the subject to subjectively evaluate the interviewer and the questionnaire.

2. NPS Survey

The questionnaire was distributed to the officers through their mail boxes at the school's mail center. At his leisure, the officer was able to anonymously complete the questionnaire and return it to the mail center where a receptacle had been provided. The main idea was to insure that the participating officer felt secure in responding truthfully to the questions.

B. THE QUESTIONNAIRE

1. The National Survey

The National Commission (1972) does not discuss the logic behind the development of their questions except to say that past surveys and methods had been studied and that the instruments had been pretested.

2. NPS Survey

Because the ultimate goal was to survey a very large number of students at NPS, the research instrument selected

was a questionnaire intended for self-administration with as few questions and responses as possible and still cover the subject.

The entire National Survey Questionnaire is too long to lend itself to distribution, self-administered and evaluation in the available time; thus, a shortened form was adopted. Also, responses to the National Survey Questionnaire were evaluated on an individual question-by-question basis and, therefore, a few questions could be selected and used together in a shorter questionnaire without greatly changing the validity of response. The questionnaire is Appendix C.

To approximate the attitudes, beliefs, experience, and knowledge of the officers attending the Naval Postgraduate School, the author selected what was thought to be the most representative 25 questions from the National Survey Questionnaire (prepared by the Response Data Corporation for the National Commission on Marihuana and Drug Abuse) and distributed them to 1629 officers at the school.

C. SAMPLE POPULATION

1. National Survey

There were 2405 adults (age 18 and older) who participated in the survey. The sample population was designed to reflect the characteristics of the current (1971) population reports. Table VI-1 gives the breakdown by percentage of the adult sample for both surveys.

Table VI-1 The National Survey Sample Characteristics Compared with Current Population (1971) Reports

	National Sample	NPS Sample	Census*
SEX			
Men	49%	100%	48%
Women	51		52
AGE			
18-25	21%	4%	21%
26-34	17	75	17
35-39	8	16	8
40-49	17	5	18
50-59	15	0	15
60 or older	22	0	21
EDUCATION			
8th grade or less	20%		24%
Some high school	15		17
High school graduate	34		36
Some college	12		13
College graduate	13	100%	10
Other	6		
RACE**			
White	87%		87%
Other	11		13
Unclassifiable	2		
MARITAL STATUS**			
Married	69%		69%
Single	18		17
Widowed	9		9
Divorced/separated	4		6
REGION**			
Northeast	25%		24%
North Central	28		28
South	30		31
West	17		17

*Source: Population Characteristics: current population reports, U.S. Bureau of the Census, 1971.

**Information not requested on NPS Survey.

2. NPS Survey

The questionnaire was distributed to 1629 officer students including: 168 Allied officers representing 24 countries; 128 U.S. Marine Corps, U.S. Air Force, U.S. Army and U.S. Coast Guard officers; and 1331 U.S. Naval Officers. Only 11 non-naval officers responded to the questionnaire. The military rank ranges from Ensign to Commander, ages 22 to 47, length of commissioned service was nine months to 22 years. The subjects included officers from almost every field in the Navy (dentists and physicians the exceptions). The only categories we used to separate the subjects were age and experience because education, social status, salary, and profession are very similar. Rank and length of service are enough a function of age to ignore for the time being.

3. General Comparisons of the Surveys

The overall characteristics of the NPS sample population compares with only a small segment of the National sample population. In fact, a case can be made that the NPS population is not representative of the Navy officer corps as a whole.

However, the author makes the comparison for the sake of personal interest and can only guess at the reasons for any differences. One point to remember is that attitudes concerning marijuana are strongly related to age and level of education, and the Navy population is significantly younger and better educated (see Table VI-1) than the national population.

D. RESPONSE

The response to the survey was gratifying with 25% of the questionnaires returned (407). Nineteen were not included in the results because they were incomplete as to age data and of these only two reported trying marijuana.

E. STATISTICAL METHOD

Due to the size of both surveys (NPS totaled 388 and National totaled 2405) the frequency distribution is a normal probability distribution. The first step was to figure the proportionate breakdown of responses to each question by classification. Next was to determine if a statistical significance existed in the comparison of the proportions from the same question but different classes of the surveys. The main interest was to determine whether the two independently computed proportions are different. See Appendix B for method of analysis.

F. RESULTS

1. Experience with Marijuana

a. National Survey

Most of the areas discussed below are not covered on the NPS survey but they are considered important information in the process of determining fact from fiction. Table VI-2 summarizes the data to be discussed.

Table VI-2 Distribution of Experience with Marijuana among Adults in the National Survey (National Commission, 1972)

	Marijuana	
	Ever Used (N-361)	Use Now
Adults (N=2,405)		
SEX		
Men	21%	7%
Women	10	3
AGE		
18-25	39%	17%
26-34	19	5
35-39	13	1
40-49	7	0
50-59	6	0
60 or older	4	0
RACE		
White	15%	5%
Black	14	3
Other	16	7
EDUCATION		
Some high school or less	16%	3%
High school graduate	14	4
Some college	25	8
College graduate or beyond	21	6
Now a student	44	23
OCCUPATION		
Professional/technical	22%	7%
Manager/official	14	4
Sales	18	5
Clerical	21	12
Craftsman/foreman	15	4
Operatives	15	3
Service workers	15	5
Laborers	19	9
Farmers	2	1
INCOME (family)		
$4,999 or less	12%	4%
$5,000-$9,999	16	4
$10,000-$14,999	17	4
$15,000-$24,999	18	5
$25,000 or more	15	7

(1) Among adults, 18 and older, 15% reported using marijuana at some time. The comparable figure for youth, age 12-17, is 14%. In terms of present users, five per cent of adults and six per cent of the 12-17 age group classify themselves in this way.

(2) Highest experience levels: 39% of young adults, 18-25; 44% of college students. Rapid decline in usage is reported after age 25.

(3) 41% of experienced adults and 45% of the 12-17 group are no longer using it; of present users, three per cent of adults and five per cent of youth report usage one or more times per day, other users less often.

(4) The marijuana milieu is a social one. First marijuana use is remembered as having these characteristics: substance was primarily a gift from a friend, in the company of other people. The activity is spontaneous rather than planned. Most often, the first remembered use is motivated by curiosity and novelty.

(5) The biggest single reason for terminating usage (among those who have terminated) is loss of interest. Twice the proportion of adults report this motive for quitting as report the next most compelling motive which is concern about the legal status of the substance.

(6) There are relatively small differences between adults with and adults without marijuana experience in terms of drugs they have taken for health reasons.

(7) There are very large differences between adults with and adults without marijuana experience in terms of other substances taken out of curiosity or pleasure. Adults with marijuana experience are much more likely than others to have tried or used hashish, stimulants (e.g., "ups") and other drugs, but to a lesser extent for curiosity or pleasure. Relatively little heroin use was reported by marijuana users.

(8) The most marked relationships in consumption are between marijuana and two commonly available substances: cigarettes and alcoholic beverages. Both of these substances go with the marijuana experience.

b. The NPS Survey

The NPS Survey did not emphasize the level of experience to the extent the National Survey did. The main reason was that the school's military administration took a dim view of questions of that nature. In any event, the breakdown of the respondents of the NPS survey by experience of marijuana use is illustrated in Table VI-3.

Table VI-3 Comparison by Age of Marijuana Experience by the National and NPS Samples Question-15&16 (Q-15&16)

Age		NPS Sample Responses	Exp*	NPS Survey percentage	National Survey percentage
Total		388	43	11.0%	
22-29	†	151	29	19.2	
30-		237	14	5.9	
22-25		16	6	37.5	36%
26-30		177	24	13.6	7
31-34	††	116	8	6.9	4
35-		75	5	6.3	2

* marijuana experimenters

† age categories of the NPS Sample

†† age categories of the National Sample

Table VI-4 summarizes or at least indicates to a very limited extent the marijuana experience at NPS. The reader should not take these figures too literally because the evidence in Table VI-4 is strictly hearsay.

Table VI-4 Marijuana Experience at NPS as Perceived by the NPS Sample (Q-20)

Per cent of friends who smoke marijuana	Total 388#	NPS Exp* 43#	NPS 22-29 151#	NPS 30+ 237#	Level of Significance (LOS)
More than half	1%	7%	3%	0%	NSD
About half	1	2	1	0	NSD
Less than half	6	26	12	2	.001
Almost none	26	42	30	23	NSD
None	35	7	31	38	NSD
Don't know	31	16	23	37	.01

* Marijuana experimenter

\# Number of subjects in each category

LOS Level of significance

NSD No significant difference

2. Drugs Positioned among Other Issues

See Table VI-5 and 6 for summary of data and comparisons. The two "as the three most pressing problems of the day" questions obviously attracted several categories. Surprisingly though, the responses could be catalogued into only seven major national categories and ten naval categories. The problems are listed in order of those considered most pressing by the NPS Sample.

a. Categories of National Problems

(1) Economy

(a) High cost of living
(b) Unemployment
(c) Taxes
(d) Poverty and welfare
(e) "Give away programs"
(f) International monetary crisis

(2) Climate of country

(a) Mistrust of government
(b) General decline in morals
(c) Lack of understanding and sympathy

(3) Crime and law enforcement

(a) Threats to public safety
(b) Police cannot do their job
(c) Breakdown in judicial system

(4) Problems of modern living

(a) Crowding
(b) Transportation
(c) Education
(d) Impersonal treatment

(5) Racial discrimination

(a) General race problems
(b) Busing
(c) Any mention of discrimination

(6) Drugs

(a) Drugs (nonspecific)
(b) Availability
(c) Crack down on pushers (users)

(7) International

(a) Military spending
(b) Military posture
(c) The confidence of our allies
(d) Foreign aid

b. Categories of Navy Problems

(1) Management

(a) Contracts with civilian corporation
(b) "Can do" attitude with an overtaxed force

(2) Discipline

(a) Respect for seniors
(b) Respect for authority

(3) Leadership

(a) Petty officer limitations
(b) Senior and junior officer limitations
(c) Civilian limitations

(4) Racial discrimination

(a) Same as before

(5) Climate

(a) General services for serviceman and family
(b) Decline in morals
(c) Lack of understanding and sympathy
(d) Z-grams

(6) Modern Navy

(a) Money
(b) Civilian attitude
(c) New ships and systems
(d) New aircraft

(7) Retention

(a) Retain the good people
(b) Get rid of the slackers

(8) Training/personnel planning

(a) Basic naval leadership training
(b) Right man in right job
(c) Junior and senior officer training
(d) Petty officer training
(e) Advanced training availability

(9) Recruiting/public image

(a) Attracting the good individual
(b) Public attitude toward the Navy

(10) Drugs

(a) Same as before

c. National Survey

The National Survey adults mention the economy (e.g., high cost of living, unemployment, taxes) as a serious problem in the country today (fall of 1971). Vietnam and drugs are next in order of importance, but neither is named by a majority of all adults.

d. NPS Survey

The NPS respondents also felt that the economy was the most critical problem (e.g., balance of payments, high cost of living, taxes) facing the nation (January 1973). However, the officers felt that the climate (national morals, big government, loss of faith in government) and crime and law enforcement ranked second and third.

The hierarchal arrangement of the topics selected as the problems facing the country and the Navy started to show by way of written comments, a clear-cut age perception difference. Leadership, although the percentages are in the ballpark, is perceived differently by juniors and seniors. The older officers feel there is a lack of leadership by the junior officers and the younger officers feel there is a lack of leadership by the senior officers. Discipline increased in importance with age, but statistical analysis shows no significant difference; however, the comments did.

Table VI-5 Areas Selected by the National and NPS Samples as the Most Serious Problems Facing the Nation (Q-1)

	National Total 2405*	NPS Total 388*	LOS	NPS Age 22-29 151*	NPS Age 30+ 237*	LOS
Economy	59%	62%	NSD	60%	63%	NSD
Climate	27	56	.001	56	56	NSD
Crime and Law Enforcement	29	33	NSD	28	37	NSD
Problems of Modern Living	40	21	.001	26	17	.05
Race/Discrimination	28	18	.001	20	16	NSD
Drugs	44	16	.001	18	15	NSD
International	46	15	.001	12	18	NSD

* Size of sample

NSD No significant difference

Table VI-6 Areas Selected by the NPS Sample as the Most Serious Problems Facing the Navy (Q-2)

	NPS Total	AGE 22-29	AGE 30+	LOS
Management	39%	48%	33%	.01
Discipline	35	24	42	NSD
Leadership	32	32	32	NSD
Race/Discrimination	24	26	23	NSD
Climate	23	26	20	NSD
Modern Navy	20	18	22	NSD
Retention	16	17	16	NSD
Training/Personnel Planning	15	7	20	.001
Recruiting/Public Image	13	12	13	NSD
Drugs	9	11	8	NSD

Management of people and resources was perceived as the most important problem by all officers, however, not to the same level of significance.

e. General Comments

Except for the economy and crime and law enforcement, there is a significant difference of opinion between the National and NPS Surveys. One explanation could be the length of time (15 months) between the administration of the surveys and the age and educational differences of the subjects. Concern about drugs is not expressed with much variety or richness of comment. The main thing said about drugs is that they are available. This is in contrast to the lengthy comments concerning contemporary morals, respect, leadership on the national level and welfare.

3. Beliefs about Marijuana

Tables VI-7, 8 and 9 summarize the comparisons of the beliefs with the three categories defined by the two surveys.

a. National Survey

(1) In terms of addictiveness (see Table VI-7) heroin is regarded as the most, and marijuana as the least addictive of four selected substances, with alcohol and tobacco falling between the other two.

(2) As shown in Table VI-8 the most widely held belief about marijuana is that it leads to trying stronger drugs, such as heroin. The data on consumption support this

Table VI-7 The Per Cent of the National and NPS Samples Who Consider These Drugs as Addictive (Q-3)

	National Total	NPS Total	LOS	AGE 22-29	AGE 30+	LOS
a. Heroin	92%	99%	.001	99%	99%	NSD
b. Alcohol	74	62	.001	64	61	NSD
c. Marijuana	65	42	.001	38	46	NSD
d. Tobacco	70	35	.001	30	33	NSD

belief, but the data shows that heroin is the least likely of the other exotic drugs to be tried.

(3) Other widely held beliefs are that marijuana smoking is morally offensive, that it makes people lose their desire to work, and that many crimes are committed under its influence. Examination of other data suggests that these expressions of belief may be reflections of a generalized attitude toward marijuana among most adults, rather than a separately considered judgment about each belief statement in the interview.

Of consequence is the high degree of uncertainty among adults and youth (12-17) about which of the beliefs are valid and which are not. This lack of certainty is particularly evident in the data for youth.

(4) Alcohol and marijuana are perceived quite differently, although there is no pattern of believing

good things about alcohol and bad things about marijuana. Marijuana users seem to see marijuana and alcohol as roughly interchangeable.

(5) Table VI-9 indicates how the two samples see the marijuana user. Adults have a mental picture of the marijuana user as someone who has dropped out of society; is bored with life; does not care much about the world around him; does not show good judgment in selecting friends.

Although not shown in the summary statistics, adults who use marijuana have a different image of themselves. To them the user is a normal person, possibly a bit more sociable than others, and very much a part of the world around him. He likes to be with people, is interested in the world around him, and enjoys life.

(6) In the "what if marijuana use is discovered" question the vast majority indicated they would rather not take aggressive action against the marijuana user. The preferred method was to discourage or discuss, not forbid. (See Tables VI-10, 11 and 12.)

Table VI-8 Per Cent of the National and NPS Surveys Who Agree to These Opinions and Beliefs Concerning Marijuana and Alcohol (Q-5 & 6)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
a. Most people who use marijuana lead a normal life.	23%	46%	.001	51%	43%	NSD
Most people who use liquor lead a normal life.	66	85	.001	87	84	NSD
b. Some people have died from using marijuana.	48	25	.001	29	23	NSD
Some people have died from using alcohol.	89	93	.05	93	94	NSD
c. Marijuana helps to relieve some of the tensions of modern life.	43	46	NSD	47	45	NSD
Liquor helps to relieve some of the tensions of modern life.	64	56	.01	53	58	NSD

Table VI-8 (Continued)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
d. Marijuana makes people want to try stronger things like heroin.	70%	35%	.001	31%	36%	NSD
Liquor makes people want to try stronger things like heroin.	14	1	.001	1	0	
e. While people are smoking marijuana they tend to become more sociable.	39	24	.001	24	25	NSD
While people are drinking liquor they tend to become more sociable.	70	62	.01	54	64	NSD
f. Marijuana makes people lose their desire to work.	59	35	.001	32	37	NSD
Alcohol makes people lose their desire to work.	48	40	.01	39	41	NSD
g. Marijuana increases sexual pleasure.	24	12	.01	15	10	.05
Liquor increases sexual pleasure.	25	10	.001	13	9	NSD

Table VI-8 (Continued)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
h. Many crimes are committed by persons who are under the influence of marijuana.	56%	13%	.001	13%	14%	NSD
Many crimes are committed by persons who are under the influence of alcohol.	69	45	.001	49	43	NSD
i. Marijuana increases enjoyment of things like art and music.	45	18	.001	24	15	.05
Alcohol increases enjoyment of things like art and music.	28	8	.001	11	6	.05
j. Using marijuana is morally offensive.	64	26	.001	20	30	.05
Using liquor is morally offensive.	40	12	.001	7	15	.01
k. Marijuana is often promoted by groups who are enemies of the United States.	45	14	.001	16	13	NSD
Alcohol is often promoted by groups who are enemies of the United States	13	4	.001	3	4	NSD

Table VI-9 Descriptions That Best Fit the Respondents' Conception of a Marijuana User (Q-7)

		National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
1.	Tends to be male	---	42%	---	32%	49%	.001
2.	Poor record in school	45%	46	NSD	30	51	.001
3.	Young person	64	88	.001	83	92	.01
4.	Likes to be with other people	31	41	.001	35	45	.05
5.	Bored with life	61	61	NSD	51	68	.001
6.	Usually a lazy person	43	41	NSD	29	48	.001
7.	A lot of personal problems	44	35	.001	26	41	.01
8.	Average number of personal problems	24	44	.001	48	41	NSD
9.	Chooses friends the way anyone else does	18	43	.001	48	41	NSD
10.	Does not show good judgment in selecting friends	51	25	.001	20	29	.05
11.	Does not care much about the world around him	55	40	.001	30	46	.01
12.	Does not drink much liquor	--	46	---	40	50	.05
13.	Uses only marijuana for pleasure	--	35	---	38	34	NSD

Table VI-9 (Continued)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
14. Not different from me	18%	35%	.001	41%	32%	NSD
15. Is a lot different from me	50	38	.001	30	44	.01

Table VI-10 Reaction to Marijuana Use
by an Offspring (Q-25)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
a. I would report him/her to the police.	9%	2%	.001	1%	2%	NSD
b. I would punish him/her.	14	21	.001	20	22	NSD
c. I would not forbid, but would try to discourage him/her from doing it again.	32	48	.001	45	51	NSD
d. I would not discourage, but would simply discuss the pros and cons	15	18	NSD	24	15	.05
e. I don't know what I would do.	35	10	.001	10	10	NSD

Table VI-11 Reaction to the Discovery that a Close Friend Was Using Marijuana (Q-23)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
a. It would not change my feelings about him/her.	25%	30%	.05	44%	28%	.01
b. It would make me wonder if there was something wrong with him/her.	22	27	.05	23	35	.05
c. It would make me want to stop being friendly with him/her.	10	16	.001	17	18	NSD
d. I don't know how I would react.	43	22	.001	18	28	.05

b. NPS Survey

(1) In terms of addictiveness (see Table VI-6) the NPS survey showed that heroin was perceived as the most potent. However, marijuana was the least addictive on the National survey while tobacco was the least addictive on the NPS survey.

(2) Of significance is the considerable difference between the two surveys concerning the perceived addictiveness of tobacco and marijuana. It is interesting to note that the hierarchy of perceived addictiveness is the same between the two NPS age groups and to the same degree.

(3) The most widely held beliefs (see Table VI-8) expressed on the NPS Survey (46%) were that most people who use marijuana lead a normal life and that marijuana helps to relieve some of the tensions of modern life.

(4) Except for relieving tensions of modern life, in every case there is a considerable difference in marijuana beliefs and opinions between the National and NPS Surveys. An important consideration is that there is more agreement between the younger (22-29 year olds) naval officers and older (30 and older) naval officers than between the similar groups of the National and NPS surveys.

(5) In the following five areas the naval officers believe alcohol to be "more potent" than marijuana (Table VI-8): (1) loss of desire to work; (2) people have died from an overdose of marijuana; (3) increased sexual pleasure; (4) crimes were committed under its influence

and (5) enjoyment of music and art (see Table VI-8 for a review of the results of the opinions expressed by the respondents).

(6) The National survey showed that adults (18 and older) have a mental picture of the marijuana user as someone who has dropped out of society. Again the naval officer is not as extreme in his view of the user as indicated in Table VI-12. He feels that the user is a normal person very much a part of the world around him.

Table VI-12 Reaction to a Competent Naval Individual Using Marijuana during his Off-Duty Hours (Q-24)

			NPS		
	Total	Exp	22-29	30+	LOS
a. None of my business as long as it did not affect his work.	20%	49%	26%	16%	.05
b. I would talk with him and ask him to stop.	43	27	44	42	NSD
c. I would take steps to have him discharged from the service.	25	20	18	29	.05
d. I don't know what I would do.	12	4	12	13	NSD

(7) There is significantly less doubt in the National Survey concerning alcohol beliefs than there is concerning marijuana beliefs. The NPS Survey showed less variance regarding beliefs of alcohol and marijuana than did the National Survey.

(8) The National Survey (Table VI-13) showed that the main reason given for never having tried marijuana was that it was morally wrong (47%). The NPS result showed that the main objection was that it was illegal (58%).

(9) A significant difference existed between the two surveys on the matter of experimenting with marijuana if it were legal. On the NPS Survey 29% stated they would try it compared to four per cent on the National Survey (Table VI-14).

Table VI-13 Reasons Why an Individual Has Not Experimented with Marijuana (Q-17)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
1. Unavailable - hard to get.	5%	12%	.001	11%	12%	NSD
2. It's illegal.	36	58	.001	60	58	NSD
3. It's morally wrong.	47	18	.001	14	21	NSD
4. Don't know about effects.	21	38	.001	37	40	NSD
5. Fear of being arrested.	9	27	.001	28	26	NSD
6. Fear of jail.	7	18	.001	20	16	NSD
7. Fear of damage to body.	39	34	NSD	28	38	NSD
8 Fear of damage to mind.	37	34	NSD	31	36	NSD
9. Fear of becoming an addict	24	17	.01	12	20	NSD

Table VI-14 Per Cent of Officers Willing to Experiment with Marijuana if It Were Legal (Q-19)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
1. Try it	4%	21%	.001	24%	19%	NSD
2. Not use it	72	64	.01	55	70	.01
3. I don't know what I would do.	18	11	.01	15	8	.05

4. Knowledge of and Beliefs about the Law

a. National Survey

(1) Nearly everyone, correctly, believes that selling marijuana is illegal, and almost as high a proportion is right in believing that possession is illegal. About two thirds of the adults are correct in thinking that there are federal laws regarding marijuana.

(2) In Table VI-15 is a prime example of the confusion and uncertainty concerning marijuana. The 12 arguments against the wider availability of marijuana are agreed to by substantial proportions of adults on the National Survey. Because of the complexity of the subject matter and the state of uncertainty about marijuana apparent throughout the data, it seems quite reasonable that the same person might simultaneously believe that:

- because of marijuana young people who are not criminals are getting police records (83%);
- laws against marijuana are very hard to enforce because most people use it in private (76%);
- there are already too many ways for people to escape their responsibilities. We don't need another one (75%);
- stiffer penalties would discourage people from using it (60%).

In general, the data collected from all 12 of the beliefs in the National Survey suggest an unsettled state of opinion in the civilian community.

b. NPS Survey

(1) It seems that the NPS respondents were more consistent in their beliefs:

- Laws against marijuana are very hard to enforce because most people use it in private (81% mostly agree);
- Stiffer penalties would encourage people from using it (76% mostly disagree).

(2) The two NPS age groups had significant differences of opinion in only two areas (see Table VI-15) concerning beliefs and opinions of marijuana. The older age group felt that there were already too many ways for people to escape responsibility. They did not agree that personal marijuana use should be decided upon as with alcohol and tobacco.

(3) The NPS student seems to become aware of the feelings that what a person does to himself/herself (Table VI-16) should not be classified as criminal. This outlook changes drastically if an unwilling party becomes involved.

The sins or vices listed in Table VI-16 are against the law. However, they are different from other crimes because they do not generally involve harm to another person. When other nonconsenting individuals are harmed or involved, other laws (e.g., assault or contributing to the delinquency, etc.) are envoked. Table VI-16 summarizes the NPS Survey's response to attitudes concerning victimless crimes.

Table VI-15 Per Cent of the Respondents of Both Samples Who Agreed to the Following Beliefs and Opinions Concerning the Legality of Marijuana (Q-8, 9, and 10)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
Yes, Federal Government has laws.	67%	77%	.001	78%	76%	NSD
Because of marijuana a lot of young people who are not criminals are getting police records and being put in jail.	83	68	.01	72	66	NSD
Laws against marijuana are very hard to enforce because most people use it in private.	76	81	.05	82	80	NSD
There are already too many ways for people to escape from their responsibilities. We don't need another one.	75	37	.001	31	41	.05
The laws against marijuana should have stiffer penalties than they do now because that would discourage people from using it.	60	18	.001	16	20	NSD
Young people would have more respect for the law if marijuana were made legal.	16	16	NSD	20	13	NSD

Table VI-15 (Continued)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
If marijuana were made legal, it would lead to teenagers becoming irresponsible and wild.	57%	21%	.001	18%	22%	NSD
Strict marijuana laws help our country to keep its moral leadership in the world.	56	13	.001	10	15	NSD
Making marijuana legal would cut down the profits of organized crime.	52	59	.05	62	57	NSD
So many people are using marijuana that it should be made legal.	15	20	.05	21	20	NSD
If marijuana were made legal, it would make drug addicts out of ordinary people.	47	13	.001	10	15	NSD
Marijuana should be up to each person to decide for himself, as with alcohol and tobacco.	43	53	.001	68	46	.001
It would give the police more time to deal with other things.	52	64	.05	62	61	NSD

Table VI-16 Per Cent of the NPS Sample Who Felt that the Following Victimless Crimes (Sins and Vices) Should Not Be against the Law (Q-27)

	NPS				
	Total	Exp	22-29	30+	LOS
Prostitution	72%	86%	74%	70%	NSD
Attempted Suicide	49	62	52	48	NSD
Gambling	79	88	79	78	NSD
Using Marijuana	42	85	50	36	.001
Homosexuality	69	80	71	64	NSD

5. Sources of Information

Of all the likely sources of information concerning marijuana, the survey results indicated that a program instituted at school was most preferred (Table VI-17). There is also mention of the family doctor, home and mass media.

Table VI-17 Adult's View of Where Youths Should Receive Drug Education (Q-21)

	National Total	NPS Total	LOS	NPS 22-29	NPS 30+	LOS
From family members.	31%	66%	.001	64%	68%	NSD
Information programs or booklets at school.	50	80	.001	78	82	NSD
Family doctor.	38	48	.001	53	45	NSD
Religious leaders at church.	26	27	NSD	23	30	NSD
Newspaper and magazine stories.	24	34	.001	34	34	NSD
Television news or stories.	26	30	NSD	28	30	NSD
I don't know where the average young person should learn about it.	23	4	.001	3	4	NSD

It is perceived (Table VI-18) that the young person actually receives his information from personal experience, someone outside the family or from the mass media.

Table VI-18 A Young Person's Suspected Main Source of Drug Information (Q-21)

		NPS			
	Total	Exp	22-29	30+	LOS
From personal experience with it.	53%	81%	61%	48%	.05
From people outside the family.	82	86	79	84	NSD
From information programs or booklets at school.	32	28	31	33	NSD
From newspaper and magazine stories.	45	49	47	43	NSD
From television news or stories.	46	33	50	45	NSD
From movies.	22	16	21	22	NSD

Adults who have experimented with marijuana reported an earlier awareness of it and curisoity about it than adults with no marijuana experience. Tables VI-19, 20 and 21 display the relationship.

The NPS Survey shows a greater percentage of persons reporting awareness of marijuana, curiosity about it, and first having the chance to try it after age 25 than in any other age category. This survey also showed their percentages to be greater than corresponding data from the National Survey.

Table VI-19 Age when Respondent Was First Curious about Marijuana (Q-13)

	National		NPS			
	Total	Exp	Total	22-29	30+	Exp
14 or younger	1%	6%	1%	3%	0%	0%
15-19	10	50	6	14	2	19
20-24	4	18	10	24	4	36
25 and older	4	7	14	9	17	33
Never curious (liar)	64	6	69	50	77	12

Table VI-20 Age when Respondent First Knew Someone Who Had Tried Marijuana (Q-12)

	National		NPS			
	Total	Exp	Total	22-29	30+	Exp
14 or younger	3%	12%	4%	4%	2%	5%
15-19	16	49	13	25	8	29
20-24	17	7	24	40	15	33
25 and older	38	1	41	21	52	32
Never knew anyone who tried it.	38	0	18	10	23	0

Table VI-21 Age when the Respondent First Had the Opportunity to Try Marijuana

	Total	NPS Exp	NPS 22-29	NPS 30+
14 or younger	3%	0%	3%	3%
15-19	7	17	15	5
20-24	18	33	33	11
25 and older	25	50	18	25
Never had the chance	47	0	31	56

Table VI-22 Comparison of the Per Cents of the National and NPS Samples Who Expressed Approval of the Following New Things Young People Are Doing (Q-3)

	National Total	NPS Total	LOS	22-29	30+	LOS
a. The way young people dress such as long hair, blue jeans, etc.	47%	49%	NSD	61%	41%	.001
b. Rock music.	64	66	NSD	80	56	.001
c. Taking part in protests and demonstrations.	28	40	.001	49	34	.001
d. Freer sexual behavior.	16	50	.001	60	44	.001
e. Traveling and hitchhiking around this country and other countries.	25	52	.001	64	44	.001
f. Use of marijuana.	8	16	.001	22	12	.001
g. Use of other drugs.	1	3	NSD	3	2	NSD

G. DISCUSSION OF CONCLUSIONS

As is the case with studies of social issues, the data do not speak for themselves. The reader may find it useful to compare the author's observations with his own impression of the findings.

Marijuana is an age-related phenomenon. If there is such a thing as a generation gap, marijuana is probably one of the devices that has widened the chasm. We have observed the magnitude of differences in feelings, beliefs and behavior that show up time and again in comparing young adults with older adults with a variety of marijuana related issues in both surveys. However, the contrast was not as sharp in the NPS Survey, indicating that the naval officer when compared to the civilian is not as liberal as a young man nor conservative as an older man.

Beliefs about marijuana do not exist in isolation. Feelings about marijuana are part of a more general value structure. According to the National Survey, adults who would like to prohibit freedom of expression on such matters as the government, the police and God are much more likely than other people to favor stricter laws and heavier penalties for possession of marijuana.

Those adults who regard the antics and activities of today's youth with tolerance (see Table VI-22) are also likely to have more accepting attitudes toward the use of marijuana. Again the naval officers seem more tolerant

particularly in the area of freer sexual behavior (50% approval versus 16% for the National).

Thus, in interpreting data from any one or a series of questions, it is useful to look for other clues to why people have expressed themselves as they have.

Nor is marijuana usage an isolated activity. The National Survey added confirmation--and empirical precisions--to other published materials. The marijuana experience most often exists in a social context, where the presence of others is important, not just coincident to the experience. People who try marijuana for kicks are also likely to try other substances for kicks (important to note that the National Survey was making reference to a predisposed individual). Marijuana usage is also related to smoking cigarettes and drinking beer, wine and liquor.

Marijuana may be more important as an issue than as a substance. There is no question about the adult perceived seriousness of the drug problem in this country. But according to the National Survey, there is an observable disparity in data between the concept of marijuana and the result of experience with it. Adults who have tried marijuana (and younger people, too) do not find it such a big deal. The typical behavior pattern is to try it, and find that one loses interest in it. Of triers who have become users by their own definitions, usage is far more likely to be occasional than steady, and infrequent rather than frequent. The largest part of the population

including naval officers now believes that marijuana is not for them, even if it were to become legal and available.

There exists uncertainty and inconsistency of response. The unsettled state of public feeling about marijuana is remarkable. In terms of uncertainty, there is much evidence that young people particularly--those 12 to 17 years old in the National Survey--do not know what to believe. The same pattern obtains for adults, but to a lesser extent as one goes from youth to the adults of the National Survey to the NPS Survey.

Among adults there is a different situation. There is more of a tendency to express a point of view, but to be somewhat inconsistent about that point of view from issue to issue.

The naval officer in both age groups at NPS is better informed, more open minded, more consistent in his beliefs and generally more tolerant in his attitudes about marijuana.

Except for Table VI-22, "things that some young people do or like these days," there were only isolated differences in degree of response between the two age categories at NPS. It seems correct to assume, considering that the National and NPS survey results were rarely at the same level, that the officers of all ages at the NPS are in more agreement and to the same degree than are the same age groups in the national population.

APPENDIX A

BACKGROUND ON THE NATIONAL COMMISSION ON MARIHUANA AND DRUG ABUSE

The National Commission on Marihuana and Drug Abuse was created by Public Law 91-513 passed by the 91st Congress October 27, 1970. The Commission started their fact-finding effort 22 March 1971, and submitted their findings to the President and the Congress of the United States on 22 March 1972. Commission members included: (1) two members of the Senate, Harold E. Hughes, (R) Iowa, and Jacob K. Javits, (R) New York, appointed by the President of the Senate; (2) two members of the House of Representatives, Tim Lee Carter, Kentucky, and Paul G. Rogers, Florida, appointed by the Speaker of the House; and (3) nine members appointed by the President of the United States: Raymond P. Shafer, Chairman (ex-Republican governor of Pennsylvania); Dana L. Farnsworth, M.D., Vice Chairman; Henry Brill, M.D.; Mrs. Joan Ganz Cooney; Charles O. Galvin, S.J.D.; John A. Howard, Ph.D.; Maurice H. Seevers, M.D., Ph.D.; J. Thomas Ungerleider, M.D.; Mitchell Ware, M.D.

The goals outlined for the Commission by Congress in Public Law are:

> The Commission shall conduct a study of marijuana including but not limited to the following areas: (a) the extent of use of marijuana in the United States to include its various sources, the number of users, number of arrests, number of convictions, amount of marijuana seized, type of user, nature of use;

(b) an evaluation of the efficacy of existing marijuana laws;
(c) an evaluation of the pharmacology of marijuana and its immediate and long-term effects, both physiological and psychological;
(d) the relationship of marijuana use to aggressive behavior and crime;
(e) the relationship between marijuana and the other drugs;
(f) the international control of marijuana.

When the funds ($1,000,000) were made available on 22 March 1971, more than 50 projects were initiated ranging from a study of the effects of marijuana on man to a field survey of enforcement of the marijuana laws in six metropolitan jurisdictions. Of particular importance to the Commission were the opinions and attitudes of all groups in our society.

Through formal and informal hearings they solicited all points of view, including those of public officials, community leaders, professional experts and students. They commissioned a nation-wide survey of public beliefs, information and experience. In addition, they conducted separate surveys of opinions among district attorneys, judges, probation officers, clinicians, university health officials and free clinic personnel.

This inquiry focused on the American experience. However, the Commission attempted to put the American experience in perspective by seeing the situation first hand in India, Greece, North Africa, Jamaica and Afghanistan.

The National Survey was undertaken at the request of the Commission in order to provide a current data base from which policy-relevant information could be gathered. The Survey

involved a national cross section of 2,405 adults and 781 youths age 12-17 who were interviewed about their own experiences with marijuana and about their more general opinions and attitudes regarding the use and control of marijuana and other drugs.

The three main objectives of the research were:

(1) to assess--comprehensively and exhaustively--public attitudes, feelings and beliefs with respect to the availability, distribution, consumption, effects, and control of marijuana and selected other substances;

(2) to determine something about the kind and extent of knowledge of these issues;

(3) to relate attitudes, beliefs and behavior to an array of likely explanatory variables, including those which are naturalistic (e.g., demography) and those which are part of the value structure of members of the public.

The findings of the Commission were reported to the President and Congress 22 March 1972. The best way to clear the air of the controversy surrounding the President and the Commission is to highlight the recommendations and relate exactly the President's statement.

The Commission was of the unanimous opinion that marijuana use is not such a grave problem that individuals who smoke marijuana, and possess it for that purpose, should be subject to criminal procedures. On the other hand they rejected the regulatory or legalization scheme because it would institutionalize availability of a drug which has

uncertain long-term effects and which might be of transient social interest.

In general, they recommended only a decriminalization of possession of marijuana for personal use on both the state and federal levels. Production and distribution of the drug would remain criminal activities as would possession and use in public places.

The President stated in an interview with Mr. Warren of the New York Times 25 March 1972 that:

> "It is a report which deserves consideration and it will receive it. However, as to one aspect of the report, I am in disagreement. I was before and I read it and reading it did not change my mind. I oppose the legalization of marijuana and that includes its sale, its possession and its use. I do not believe you can have an effective criminal justice based on the philosophy that something is half legal and half illegal. That is my position, despite what the commission recommended."

The author urges the reader not to disregard out of hand the scientific information presented by the Commission because of a political disagreement in only one area of a report that is considered to be the most comprehensive study on marijuana.

APPENDIX B

DETAILS OF THE STATISTICAL METHOD

The following analysis was used to compare the NPS Survey data with the National Survey data:

Test for Significance of Difference between Two Proportions

$$Z = \frac{P_1 - P_2}{\sqrt{\frac{p(1-p)}{N_1} + \frac{p(1-p)}{N_2}}}$$

where the value of p under the radical is computed as:

$$p = \frac{N_1 P_1 + N_2 P_2}{N_1 + N_2}$$

P_1 and P_2 are the proportions of the total NPS and National Surveys, in that order, who responded in a positive manner to the individual questions, e.g., the "mostly agree" or "approve" responses or the action selected from a list of actions or viewpoints that express the attitudes of the responder. N_1 and N_2 (388 and 2405) are the total sample size of the NPS and National Surveys.

A Z having a value of greater than or equal to 1.96 or less than or equal to -1.96 is considered significant at the .05 level using a two tailed test. In other words, if the question is administered again there is a 95% probability that the proportions will be different on

the same order to the same degree. The level of significance of other Z values is as follows:

$-2.57 \geq Z \geq 2.57$ is significant at the .01 level, and

$-3.30 \geq Z \geq 3.30$ is significant at the .001 level.

The test used to test the level of significance between the two age groups in the NPS Survey was the simple chi-square test. This test will determine whether the two variables are related. A significant chi-square is interpreted as showing no relationship between the two variables.

The assumptions are: (1) each sample is a random sample; (2) the two samples are mutually independent; (3) each observation may be categorized either into class one or class two, e.g., positive or negative responses.

	Total Positive Responses	Total Negative Responses	
NPS Survey	A	B	A+B
National Survey	C	D	C+D
	A+C	B+D	A+B+C+D

$$\text{chi-square} = \frac{(A+B+C+D)(AD-BC)^2}{(A+B)(C+D)(A+C)(B+D)}$$

The .95 quantile (.05 level of significance) of a chi-square variable with one degree of freedom is 3.84. The .01

level of significance is 6.64 and the .001 level is 10.83. At the .001 level of significance there is only one chance in 1,000 that the groups would ever have the same results.

The no opinion responses in the NPS data were not included in the statistical analysis of significance.

It is noted that in many instances the percentages from the National Survey do not add up to 100%. This is because the National Survey figures included the "no opinion" answers. On the other hand the NPS figures represent actual answers; that is, if a person refused to answer a question he was not included in the total for that particular question. However, the instances when individuals refused to answer a particular question were few, and therefore good comparison can be made between the two surveys.

APPENDIX C

THE QUESTIONNAIRE

1. Think for a moment of the problems that face this country today: which two or three problems do you think are most serious and need attention?

a. _____

b. _____

c. _____

2. How about the problems that need the most attention in the Navy? What are two or three problems that need the most attention?

a. _____

b. _____

c. _____

3. Here are things that some young people do or like these days. For each one please indicate whether you generally approve or generally disapprove of young people doing or liking these things.

	APPROVE	DISAPPROVE	NO OPINION
a. The way young people dress, such as long hair, blue jeans, etc.	1	2	3
b. Rock music.	1	2	3
c. Taking part in protests and demonstrations.	1	2	3
d. Freer sexual behavior.	1	2	3

	APPROVE	DISAPPROVE	NO OPINION
e. Traveling and hitch-hiking around this country and other countries.	1	2	3
f. Use of marihuana.	1	2	3
g. Use of other drugs.	1	2	3

4. Thinking of just four items--heroin, alcohol, marijuana, and tobacco--which ones, if any, are addictive; that is, anybody who uses it regularly becomes dependent on it and can't get along without it? (Circle letters for as many as apply.)

a. Heroin b. Alcohol c. Marihuana

d. Tobacco e. None of them d. No opinion

5. The following are statements that have been made about marihuana. Please indicate your own opinion of each statement by circling the appropriate answer.

	MOSTLY AGREE	MOSTLY DISAGREE	NOT SURE
a. Most people who use marihuana lead a normal life.	1	2	3
b. Some people have died from using it.	1	2	3
c. Marihuana helps to relieve some of the tensions of modern life.	1	2	3
d. It makes people want to try stronger things like heroin.	1	2	3

	MOSTLY AGREE	MOSTLY DISAGREE	NOT SURE
e. While people are smoking marihuana they tend to become more sociable.	1	2	3
f. It makes people lose their desire to work.	1	2	3
g. Marihuana increases sexual pleasure.	1	2	3
h. Many crimes are committed by persons who are under the influence of marijuana.	1	2	3
i. It increases enjoyment of things like music and art.	1	2	3
j. Using marihuana is morally offensive.	1	2	3
k. It is often promoted by groups who are enemies of the United States.	1	2	3

6. We also want to know how you feel about liquor like whiskey, brandy, or gin.

	MOSTLY AGREE	MOSTLY DISAGREE	NOT SURE
a. Most people who use liquor lead a normal life.	1	2	3
b. Some people have died from using it.	1	2	3
c. Liquor helps to relieve some of the tensions of modern life.	1	2	3
d. It makes people want to try stronger things like heroin.	1	2	3
e. While people are drinking liquor they tend to become more sociable.	1	2	3

		MOSTLY AGREE	MOSTLY DISAGREE	NOT SURE
f.	It makes people lose their desire to work.	1	2	3
g.	Liquor increases sexual pleasure.	1	2	3
h.	Many crimes are committed by persons who are under the influence of alcohol.	1	2	3
i.	It increases enjoyment of things like music and art.	1	2	3
j.	Using liquor is morally offensive.	1	2	3
k.	It is often promoted by groups who are enemies of the United States.	1	2	3

7. Read through this list; then indicate which of the things best fit your own idea of what a marihuana user is like. You can indicate as many or as few things as you want to, whatever fits your mental picture of a marihuana user.

1. Tends to be male.
2. Tends to be female.
3. Good record in school
4. Poor record in school.
5. Young person.
6. Older person.
7. Likes to be with other people.
8. Tries to avoid other people.
9. Bored with life.
10. Enjoys life.
11. Usually an ambitious person.
12. Usually a lazy person.
13. A lot of personal problems.
14. Average number of personal problems.
15. Chooses friends the way anyone else does.
16. Does not show good judgment in selecting friends.
17. Is interested in the world around him.
18. Does not care much about the world around him.
19. Drinks a lot of liquor.
20. Does not drink much liquor.
21. Uses many different drugs for pleasure.
22. Uses only marihuana for pleasure.
23. Not too different from me.
24. Is a lot different from me.

8. Do you happen to know if the federal government has any laws about marihuana?

(1) YES, Federal government has laws.

(2) NO, no marihuana laws.

(3) Not sure.

9. Here are some things that people have said are reasons to make marihuana legal to have and to use. Please indicate your response to these statements.

	MOSTLY AGREE	MOSTLY DISAGREE	NO OPINION
a. Laws against marihuana are very hard to enforce because most people use it in private.	1	2	3
b. So many people are using marijuana that it should be made legal.	1	2	3
c. Because of marihuana a lot of young people who are not criminals are getting police record and being put in jail.	1	2	3
d. Making marihuana legal would cut down the profits of organized crime.	1	2	3
e. It would give the police more time to deal with other things.	1	2	3
f. Young people would have more respect for the law if marihuana were made legal.	1	2	3
g. It should be up to each person to decide for himself, like with alcohol and tobacco.	1	2	3

10. Now here are some reasons that people sometimes give for keeping the marihuana laws the way they are, or for making these laws stricter than they are now. Please indicate your response to these statements.

	MOSTLY AGREE	MOSTLY DISAGREE	NO OPINION
a. The laws against marihuana should have stiffer penalties than they do now because that would discourage people from using it.	1	2	3
b. If marihuana were made legal, it would lead to teenagers becoming irresponsible and wild.	1	2	3
c. If marihuana were made legal, it would make drug addicts out of ordinary people.	1	2	3
d. Strict marihuana laws help our country to keep its moral leadership in the world.	1	2	3
e. There are already too many ways for people to escape from their responsibilities. We don't need another one.	1	2	3

11. Does the Navy allow admitted marihuana users (no criminal record) to enlist for active duty?

a. Yes b. No c. Don't know.

12. About how old were you when you first knew someone who had tried marihuana?

a. _____ (estimated age)

b. Never knew anyone who had tried it.

13. How old were you when you first felt a bit curious about marihuana and thought that you might try it sometime?

a. _____ (estimated age)

b. Never felt curious about it.

14. About how old were you when you first had the chance to try marihuana if you wanted to?

a. _____ (estimated age)

b. Never had the chance to try it.

15. If you did have the chance to try marihuana at that time, did you try it?

a. Yes b. No c. Not sure, don't remember

16. If you did not try marihuana at that time, when was the first time that you tried marihuana?

a. _____ (estimated age)

b. I have not tried it.

(Questions 17 and 18 DO NOT APPLY TO THOSE WHO HAVE TRIED MARIHUANA.)

17. What are the main reasons you have never tried marihuana? Circle numbers for as many as apply.

1. Unavailable--hard to get.
2. Costs too much money.
3. It's illegal.
4. It's morally wrong.
5. Don't know about the effects.
6. Fear of being arrested.
7. Fear of jail.
8. Fear of damage to body.
9. Fear of damage to mind.
10. Fear of becoming an addict.
11. Pressure from family.
12. Pressure from friends.
13. Not sure.

18. Under what circumstances would you try marihuana? Circle letters for as many as apply.

a. I would try it if I knew where to get some.

b. I would try it at a gathering of close friends if other people were smoking it and it was offered to me.

c. I would try it if it were legal.

d. I would try it if I were outside the United States.

e. I would not try it under any circumstances.

19. If marihuana were legal, and available, would you probably:

a. Try it.

b. Use it more than I do now.

c. Use it less than I do now.

d. Use it about as often as I do now.

e. Not use it.

f. I don't know what I would do.

20. About how many of your friends use marihuana at least once in awhile?

1. More than half.

2. About half.

3. Less than half.

4. Almost none.

5. None.

6. Don't know.

21. From which of these sources to you think the average young person has gotten most of his knowledge and opinions

about marihuana? Circle numbers for as many as apply.

1. From personal experience with it.
2. From family members.
3. From people outside the family.
4. From information programs or booklets at school.
5. From a family doctor.
6. From religious leaders at church.
7. From newspaper and magazine stories.
8. From television news or stories.
9. From movies.
10. I don't know where the average young person learned about it.

22. From which of these sources to you think the average young person should get most of his or her knowledge and opinions about marihuana. Circle numbers for as many as apply.

1. From personal experience with it.
2. From family members.
3. From people outside the family.
4. Information programs or booklets at school.
5. Family doctor.
6. Religious leaders at church.
7. Newspaper and magazine stories.
8. Television news or stories.
9. Movies.
10. I don't know where the average young person should learn about it.

23. Suppose that you happened to find out that a friend was using marihuana regularly. How would you react?

a. It would not change my feelings about him/her.

b. It would make me wonder if there was something wrong with him/her.

c. It would make me want to stop being as friendly with him/her.

d. It would make him/her more interesting to me.

e. I would report him/her to the police.

f. I don't know how I would react.

24. Let's say that you were a commanding officer. One day you learned that one of your good men was a regular marihuana user, but smoked it after hours, not on the job. What would your reaction probably be? Circle one answer.

a. None of my business as long as it did not affect his work.

b. I would talk with him and ask him to stop.

c. I would take steps to have him discharged from the service.

d. I don't know what I would do.

25. If you found that one of your 12 to 20 year old children was smoking marihuana with friends, what would you probably do?

a. I would report him/her to the police.

b. I would punish him/her.

c. I would not forbid, but would try to discourage him/her from doing it again.

d. I would not discourage, but would simply discuss the pros and cons.

e. I would not do anything.

f. I don't know what I would do.

26. If a youngster of yours, age 12 to 20, was arrested for a marihuana offense, what do you think your reaction might be?

a. It would be the best way to teach him a lesson.

b. I would be very upset because of the police record that goes with it.

c. I would do everything I could to get him off.

27. Here are some "sins" or "vices" as some people think of them, which are against the law. They are different from other crimes because the people who do them are willingly involved. Please read through the list and indicate for each one if you think it should or should not be against the law.

	SHOULD BE AGAINST THE LAW	SHOULD NOT BE AGAINST THE LAW	NOT SURE
Gambling	1	2	3
Attempted suicide	1	2	3
Prostitution	1	2	3
Homosexuality	1	2	3
Using marihuana	1	2	3

28. How old are you?

_____ years

29. What is your year group? _____

30. Quarters completed at NPS? _____

BIBLIOGRAPHY

Abel, Ernest L. "Changes in Anxiety Feelings Following Marihuana Smoking," British Journal of Addiction, 1971, Vol. 66, 185-187.

Abel, Ernest L. "Marihuana and Memory: Acquisition or Retrieval?" Science, 10 September 1971, Vol. 173, 1038-1040.

Bialos, Donald S., "Adverse Marijuana Reaction: A Critical Examination of the Literature and Selected Case Material," American Journal of Psychiatry, December 1970, Vol. 127, No. 6, 119-123.

Black, Samuel; Owens, Kenneth L. and Wolff, Ronald P., "Patterns of Drug Use: A Study of 5,482 Subjects," American Journal of Psychiatry, October 1970, Vol. 127, No. 4, 62-65.

Bloomquist, Edward R., Marijuana. Beverly Hills: Collier-Macmillan Limited, 1968.

Blum, Richard H. and Associates. Drugs II, Students and Drugs. San Francisco: Jossey-Bass, Inc., Publishers, 1969.

Carlin, Albert S. and Post, Robin D., "Patterns of Drug Use among Marihuana Smokers," Journal of American Medical Association, November 8, 1971, Vol. 218, No. 6, 867-868.

Cross, Herbert J. and Davis, Gary L., "College Students' Adjustment and Frequency of Marijuana Use," Journal of Counseling Psychology, 1972, Vol. 19, No. 1, 65-67.

Duckman, Robert H., "Marihuana--How it Affects Vision, Perception and Memory," Journal of the American Optometric Association, February 1972, Vol. 43, No. 2, 161-163.

Eaton, Merrill T., "Alcohol, Drugs and Personal Practices," Personnel Journal, October 1971, 754-758.

Gale, Elliot N. and Guenther, Gary, "Motivational Factors Associated with the Use of Cannabis (Marihuana)," British Journal of Addiction, 1971, Vol. 66, 188-194.

Geller, Allen and Boas, Maxwell, The Drug Beat, New York: McGraw-Hill Book Company, 1969.

Goode, Erich, "Drug Use and Grades in College," Nature, November 26, 1971, Vol. 234, No. 5326, 225-227.

Gorodetzky, Charles W., "Marihuana, LSD, and Amphetamines," Drug Dependence, Issue No. 5, October 1970, 18-23.

Halikas, James A., Goodwin, Donald W. and Guze, Samuel B., "Marihuana Effects: A Study of Regular Users," Journal of American Medical Association, August 2, 1971, Vol. 217, No. 5, 692-694.

Hollister, Leo E., "Current Research on Marijuana," Journal of Social Issues, Vol. 27, November 3, 1971, 23-33.

Hyde, Margaret O., edited by, Mind Drugs. New York: Pocket Books, 1969.

Kieffer, Sherman N., "Marihuana-General Statement: research supported by various National Institute of Mental Health programs," Drug Dependence, Issue No. 4, June 1970, 27-39.

La Driere, M. La Verne and Szczepkowski, Thomas R., "Marijuana: Its Meaning to a College Population," Journal of Psychology, 1972, Vol. 81, 173-180.

Land, Herman W., What You Can Do about Drugs and Your Child, New York: Hart Publishing Company, Inc., 1969.

Lindesmith, Alfred R., The Addict and the Law, Bloomington, Indiana: Indiana University Press, 1965.

Lingeman, Richard R., Drugs from A to Z: A Dictionary, New York: McGraw-Hill Book Company, 1969.

Lipp, Martin R., Benson, Samuel G., and Tointor, Zebulon, American Journal of Psychiatry, August 1971, Vol. 128, No. 2, 99-103.

Mirin, Steven M., Shapiro, Leo M., Meyer, Roger E., Pillard, Richard C., and Fisher, Seymour, "Casual Versus Heavy Use of Marijuana: A Redefinition of the Marijuana Problem," American Journal of Psychiatry, March 1971, Vol. 127, No. 9, 54-60.

National Commission on Marihuana and Drug Abuse, Marihuana: A Signal of Misunderstanding, Washington: U.S. Government Printing Office, 1972.

Orcutt, James D., "Toward a Sociological Theory of Drug Effects: A Comparison of Marijuana and Alcohol," Sociology and Social Research, Vol. 56, No. 2, January 1972, 242-253.

Robbins, Edwin S., Robbins, Lillian, Frosch, William A., and Stern, Marvin, "College Student Drug Use," American Journal of Psychiatry, June 1970, Vol. 126, No. 12, 85-93.

Robbins, Lillian; Robbins, Edwin S., Stern, Marvin, "Psychological and Environmental Factors Associated with Drug Abuse," Drug Dependence, Issue No. 5, October 1970.

Salman, Robert, "An Analysis of Public Marijuana Policy," Social Casework, Vol. 53, No. 1, January 1972, 19-29.

Szasz, Thomas S., "The Ethics of Addiction," Harper's Magazine, April 1972, 74-79.

Weil, Andrew, The Natural Mind, Boston: Houghton Mifflin Co., 1973.

World Health Organization Technical Report Series No. 478, The Use of Cannabis, Report of a WHO Scientific Group, 1971.

_____. "Drug Use among Nation's Youth Explored in Study," Institute for Social Research, University of Michigan: Spring 1972, 4.

_____. "Marijuana on the Job," Occupational Mental Health, Vol. 2, No. 2, Spring 1972, 13.

_____. "Marijuana and Health--Latest Government Findings," U.S. News & World Report, February 21, 1972, 75.

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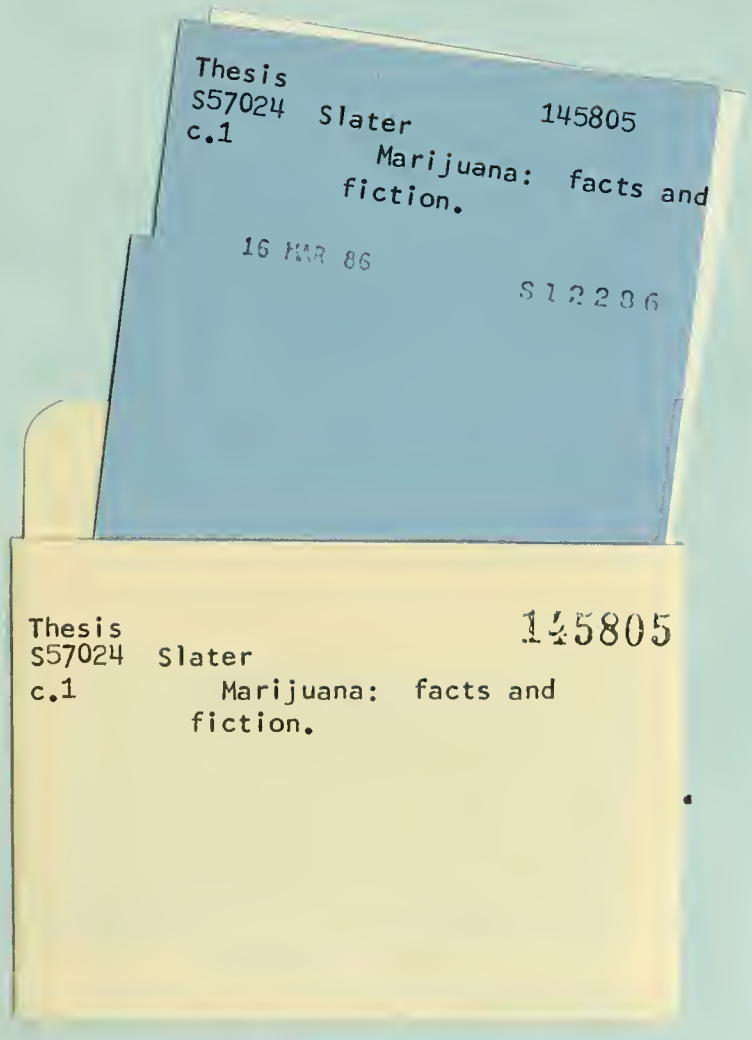
ABSTRACT

This thesis was written to outline the facts and myths concerning marijuana use as described in contemporary research and literature. It also gives a limited insight into the marijuana attitudes, beliefs, experience, and knowledge of the naval officer attending the Naval Postgraduate School (NPS). The results of a questionnaire developed by the National Commission on Marihuana and Drug Abuse and administered to the NPS students were discussed and compared to the results of the National Commission's National Survey.

KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Marijuana						
Naval Officers' Knowledge of Marijuana						
Attitudes about Marijuana						
Beliefs about Marijuana						
Experience with Marijuana						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